

2ND EDITION

THE HONG KONG GERIATRICS SOCIETY

Curriculum in Geriatric Medicine

Chief Editor : Tak-kwan KONG

Learning Manual

The Hong Kong Geriatrics Society
香港老人科醫學會

LEARNING MANUAL

2ND EDITION

THE HONG KONG GERIATRICS SOCIETY

Curriculum in Geriatric Medicine

Chief Editor : Tak-kwan KONG



香港醫學專科學院出版社
HONG KONG ACADEMY OF MEDICINE PRESS

Dedicated to my parents and all elders who have taught us how to be better geriatricians through their illnesses

The Hong Kong Geriatrics Society Curriculum in Geriatric Medicine Learning Manual

Second Edition

Chief Editor: **Tak-kwan KONG 江德坤**

Associate Editors: **Francis Chun-keung MOK 莫俊強**

Felix Hon-wai CHAN 陳漢威

James Ka-hay LUK 陸嘉熙

Christopher Chor-ming LUM 林楚明

Publication Editors: **Yvonne KWOK 郭佩賢**

Betty LAU 劉薇薇

Copyright © 2017 The Hong Kong Geriatrics Society. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission from the chief editor or the copyright owner.
ISBN 978-988-78347-1-7
First edition 2005
Second edition 2017

Chief Editor: Tak-kwan KONG, e-mail: tkkong@hku.hk

Associate Editors: Francis Chun-keung MOK, Felix Hon-wai CHAN, James Ka-hay LUK, Christopher Chor-ming LUM

Publication Editors: Yvonne KWOK, Betty LAU

Copyright owner: The Hong Kong Geriatrics Society, Room 2A, Ming Tak Centre, 135-137 Tung Chau Street, Kowloon, Hong Kong SAR, China; tel: (852) 2374 1289; fax: (852) 2396 6465; email: info@hkgs.org; website: http://www.hkgs.org

Publisher: Hong Kong Academy of Medicine Press, 10/F, Hong Kong Academy of Medicine Jockey Club Building, 99 Wong Chuk Hang Road, Aberdeen, Hong Kong SAR, China; tel: (852) 2871 8822; fax: (852) 2515 9061; email: hkampress@hkam.org.hk; website: http://www.hkampress.org

E-book: The second edition of this book is available in electronic format only at The Hong Kong Geriatrics Society website: http://www.hkgs.org. This book is a companion to *The Hong Kong Geriatrics Society Curriculum in Geriatric Medicine (Second edition)*, which is available in both printed and electronic formats. Details of subscription are available at the Hong Kong Geriatrics Society website.

Notice
Medical knowledge is constantly changing. The Hong Kong Geriatrics Society, authors, publisher, and distributors of this book will in no manner whatsoever assume any responsibility or liability of any kind for any inquiry and / or damage to persons or property arising out of or related to any use of material contained in this book. It is the responsibility of the practitioner, relying on their own experience and knowledge of the patient, to make diagnoses, to determine dosages and the best treatment of each individual, and to take all appropriate safety precautions.

CONTENTS

Preface viii
Tak-kwan KONG

Contributors ix

PART 1 — GERIATRIC SERVICES AND GERIATRIC APPROACH

1L Development and Practice of Geriatric Medicine 1
Tak-kwan KONG

2L Comprehensive Geriatric Assessment 4
Tak-kwan KONG

3L Acute Geriatric Care 6
Chun-por WONG

4L Geriatric Rehabilitation 7
Mandy Pui-man FUNG, Jennifer Ma Wai-wai MYINT

5L Long-term Hospital Care: Infirmary Care 8
Tak-kwan KONG

6L Community Geriatrics — Residential Care Home Medicine 9
Francis Chun-keung MOK, Alfred Si-yan AU, Bernard Ming-hei KONG

7L Community Geriatrics — Transitional Care and Discharge Support Programmes 10
Man-fai NG, Edmund Kwok-yiu SHA, Bing-chung TONG

8L Geriatric Day Hospital 12
James Ka-hay LUK

9L Telemedicine 14
Teresa Kim-kam YU

10L Preventive Geriatrics 15
Tai-pong LAM, Felix Hon-wai CHAN

11L Psychogeriatric Services 17
Pey-chyou PAN

12L Orthogeriatrics and Fragility Fracture in Old Age 18
Jones Chun-man CHAN, David Lok-kwan DAI

13L Oncogeriatrics 21
Tak-kwan KONG

14L Indications for and Interpretation of Laboratory Investigations in Old Age 23
Leung-wing CHU, Patrick Ka-chun CHIU

15L Safe and Effective Use of Drugs in Old Age 24
Tak-kwan KONG, Felix Hon-wai CHAN, Jones Chun-man CHAN

16L Psychosocial Aspects of Geriatric Care 27
Ada Chan Yuk-sim MUI, Elsa Shing-tak LEE

17L Ethical and Legal Aspects of Care for Elders 29
Jacqueline Kwan-yuk YUEN

18L Palliative Care and Pain Management 30
Raymond See-kit LO

19L End-of-life Care 32
Felix Hon-wai CHAN, May Wing-han TANG, Jenny Shun-wah LEE

PART 2 — GERIATRIC SYNDROMES

20L Falls 33
Tak-yeung CHAN, Francis Chun-keung MOK

21L Dizziness and Syncope 34
Chi-fai KO, Pan YEUNG

22L Urinary Incontinence 36
Teresa Kim-kam YU, Bing-chung TONG, Edward Man-fuk LEUNG

23L Constipation and Faecal Incontinence 37
Bing-chung TONG

24L Dementia and Delirium 39
Daniel Ka-lok YUK, David Lok-kwan DAI

25L Depression 41
Cheong-fai CHAN, Eric Fuk-chi CHEUNG

26L Anxiety Syndrome 43
Karen Hong-yun WAT, Amos Chuen-yih CHEUNG, Hoi-yin TANG, Edwin Chi-shing YU

27L Sleep Disorders in Old Age 44
Jenny Shun-wah LEE, Karen Hong-yun WAT, Jones Chun-man CHAN, David Lok-kwan DAI

28L Impaired Vision and Hearing 45
Loar Ka-keung MO

29L Impaired Immunity and Infections 46
Tak-kwan KONG

30L Nutrition Disorders in Older Adults 50
Tung-wai AU YEUNG, Bernard Ming-hei KONG

PART 3 — COMMON GERIATRIC DISEASES

31L Urinary Tract Infections 51
Tiong-chee SIM, Edward Man-fuk LEUNG

32L Respiratory Tract Infections 52
David Lok-kwan DAI, Bosco Hon-ming MA, Jones Chun-man CHAN

33L Geriatric Musculoskeletal Disorders 53
Tak-kwan KONG

34L Parkinsonism 55
Francis Chun-keung MOK

35L Stroke 56
Bun SHENG, Joseph Shiu-kwong KWAN

36L Atrial Fibrillation 57
Bun SHENG, Tak-kwan KONG

37L Cardiovascular Disorders 59
James Ka-hay LUK

38L Chronic Obstructive Pulmonary Disease 61
Bernard Ming-hei KONG, Christopher Chor-ming LUM

39L Anaemia in Old Age 63
Chiu-yin IP, Chi-shing LEUNG

40L Common Skin Problems 64
James Ka-hay LUK

41L Diabetes Mellitus 66
Tin-wai WONG, Jenny Yin-yan LEUNG

42L Thyroid Disorders 67
Tin-wai WONG, Tak-kwan KONG

43L Gastrointestinal Disorders 70
Christopher Chor-ming LUM

44L Pressure Ulcers 71
Yiu-keung KWAN

Answers **72**

PREFACE

This Learning Manual is a companion to the textbook "The Hong Kong Geriatrics Society Curriculum in Geriatric Medicine, 2nd edition", and is intended for self-learning or guidance by teachers / trainers of formal courses in geriatric medicine and gerontology. The chapters in the Learning Manual are numbered as Ch xxL corresponding to the respective chapter Ch xx of the parent textbook "The Hong Kong Geriatrics Society Curriculum in Geriatric Medicine". The Learning Manual is in the format of multiple choice questions, data interpretation, audit, case scenarios, case commentaries, and journal reading. Emphasis is placed on problem-orientated approach, as well as clinical and local relevance. Answers and explanations are provided at the end for some of the questions.

The aim of this Learning Manual is to test knowledge, to test clinical application, to stimulate interest for further in-depth reading, to prepare candidates sitting for relevant examinations in geriatric medicine and gerontology, and ultimately to improve the standard of medical care for elders.

Tak-kwan KONG
Chief Editor

Contributors

Alfred Si-yan AU, ***MBBS(HK), FRCP(Lond, Edin, Glasg), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Consultant Geriatrician, Department of Medicine and Geriatrics, United Christian Hospital, Hong Kong

Tung-wai AU YEUNG, ***MBChB(CUHK), MD(CUHK), FHKAM(Medicine), Specialist in Geriatric Medicine***
Consultant Geriatrician, Department of Medicine and Geriatrics, Pok Oi Hospital, Hong Kong

Cheong-fai CHAN, ***MBChB(CUHK), MRCPsych(UK), FHKCPsych, FHKAM(Psychiatry), Specialist in Psychiatry***
Chief of Service, Department of Old Age Psychiatry, Castle Peak Hospital, Hong Kong

Felix Hon-wai CHAN, ***MBBCh(Wales), MSc(Wales), FRCP(Irel, Glasg, Edin), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Service Director (Primary & Community Health Care), Hong Kong West Cluster; Division Chief (Geriatrics), Honorary Clinical Associate Professor, Department of Medicine, The University of Hong Kong, Hong Kong; Consultant, Department of Medicine and Geriatrics, Fung Yiu King Hospital, Hong Kong

Jones Chun-man CHAN, ***MBChB(CUHK), MSc(Clinical Gerontology), FRCP(Edin), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Associate Consultant, Department of Medicine and Therapeutics, Prince of Wales Hospital; Clinical Associate Professor (Honorary), Department of Medicine and Therapeutics, The Chinese University of Hong Kong, Hong Kong

Tak-yeung CHAN, ***MBBS(HK), FHKAM(Medicine), FRCP(Edin, Glasg), Specialist in Geriatric Medicine***
Consultant Geriatrician, Department of Medicine and Geriatrics, Kwong Wah Hospital, Hong Kong; Honorary Clinical Associate Professor, Department of Medicine, The University of Hong Kong, Hong Kong

Tuen-ching CHAN, ***MBBS(HK), MD(HK), MRCP(UK), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Associate Consultant, Department of Medicine and Geriatrics, Fung Yiu King Hospital, Hong Kong; Honorary Clinical Assistant Professor, Department of Medicine, The University of Hong Kong, Hong Kong

Amos Chuen-yih CHEUNG, ***BSW, PCPsych, PhD(Clinical Psychology), Registered Social Worker, Registered Clinical Psychologist(HKPS)***
Research Assistant Professor, Department of Social Work and Social Administration, The University of Hong Kong, Hong Kong; President, The Hong Kong Psychological Society

Eric Fuk-chi CHEUNG, ***MBBS(HK), FRCPsych(UK), FHKAM(Psychiatry), Specialist in Psychiatry***
Formerly Hospital Chief Executive, Castle Peak Hospital, Hong Kong; Hospital Chief Executive, Kwong Wah Hospital, Hong Kong

Patrick Ka-chun CHIU, ***MBBS(HK), MMedSc(HK), FRCP(Glasg), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Consultant Geriatrician, Queen Mary Hospital, Grantham Hospital, Fung Yiu King Hospital and Tung Wah Hospital, Hong Kong; Honorary Clinical Associate Professor, Department of Medicine, The University of Hong Kong, Hong Kong

Leung-wing CHU, ***MBBS(HK), MD, FRCP(Lond, Edin, Glasg), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Specialist in Geriatric Medicine, Hong Kong Brain Memory Centre, Manning House, Hong Kong; Honorary Clinical Professor, Department of Medicine, The University of Hong Kong, Hong Kong

David Lok-kwan DAI, ***MBBS(HK), FRCP(Lond, Irel, Glasg), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Clinical Director, Healthcare for the Senior, Qualigenics, Hong Kong; Director, Geriatric Medicine, Baptist Hospital, Hong Kong

Mandy Pui-man FUNG, ***MBChB(CUHK), MRCP(UK), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Private Practice; Clinical Associate Professor (Honorary) in Family Medicine, School of Public health and Primary Care, The Chinese University of Hong Kong, Hong Kong

Chiu-yin IP, ***MBBS(HK), FRCP(Edin), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Consultant Geriatrician, Department of Medicine and Geriatrics, Caritas Medical Centre, Hong Kong

Carolyn Poey-lyn KNG, ***MBBCh(Wales), MHA(UNSW), Dip Geri Med(Lond), FRCP(Edin, Lond), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Service Director (Primary & Community Health Care), Hong Kong East Cluster; Consultant (Integrated Medical Services) and Head of Department of Geriatrics, Ruttonjee and Tang Shiu Kin Hospitals, Hong Kong; Honorary Clinical Associate Professor, Department of Medicine, The University of Hong Kong, Hong Kong

Chi-fai KO, ***MBBS(HK), FRCP(Edin, Glasg), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Consultant, Department of Medicine and Geriatrics, Princess Margaret Hospital and North Lantau Hospital, Hong Kong

Bernard Ming-hei KONG, ***MB(Aust), FRCP(Lond, Edin, Glasg), FCCP(USA), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Consultant Physician, Department of Medicine, Pamela Youde Nethersole Eastern Hospital, Hong Kong; Honorary Clinical Associate Professor, Department of Medicine, The University of Hong Kong, Hong Kong

Tak-kwan KONG, ***MBBS(HK), FRCP(Lond, Edin, Glasg), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Formerly Consultant Geriatrician, Department of Medicine and Geriatrics, Princess Margaret Hospital, Hong Kong; Consultant Geriatrician, Department of Medicine and Therapeutics, Prince of Wales Hospital, Hong Kong; Clinical Associate Professor (Honorary), Department of Medicine and Therapeutics, The Chinese University of Hong Kong, Hong Kong; Honorary Clinical Associate Professor, Departments of Medicine, Family Medicine and Primary Care, Medical Ethics and Humanities Unit, The University of Hong Kong, Hong Kong

Joseph Shiu-kwong KWAN, ***MBBS(Bristol), MPhil(Southampton), MD(Edin), FRSPH(UK), FRCP(Lond, Edin), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Clinical Associate Professor, Department of Medicine, The University of Hong Kong, Hong Kong; Honorary Consultant in Geriatric Medicine, Queen Mary Hospital, Hong Kong

Yiu-keung KWAN, ***MBChB(CUHK), FRCP(Edin), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Consultant Physician and Geriatric Team Head, Department of Medicine and Geriatrics, Tuen Mun Hospital, Hong Kong

Tai-pong LAM, ***MBBS(W Aust), MFM(Monash), PhD(Syd), MD(HK), FRACGP, FRCP(Glasg), FHKAM, Specialist in Family Medicine***
Professor and Chief of Postgraduate Education, Department of Family Medicine and Primary Care, The University of Hong Kong, Hong Kong

Elsa Shing-tak LEE, ***MA, EdM, PhD***
Adjunct Professor, Department of Applied Psychology, New York University, New York, US

Jenny Shun-wah LEE, ***MBChB(CUHK), MD, FRCP(Lond), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Consultant Geriatrician, Tai Po and Alice Ho Mui Ling Nethersole Hospitals, Hong Kong; Clinical Associate Professor (Honorary), Department of Medicine and Therapeutics, The Chinese University of Hong Kong, Hong Kong

Chi-shing LEUNG, ***MBBS(HK), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Associate Consultant, Department of Medicine and Geriatrics, Caritas Medical Centre, Hong Kong; Clinical Associate Professor (Honorary), Department of Medicine and Therapeutics, The Chinese University of Hong Kong, Hong Kong

Edward Man-fuk LEUNG, ***MBBS(HK), FRCP(Lond, Edin, Glasg), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Director, Geriatric Medicine (Healthy Ageing) and Hon Consultant in Geriatric Medicine, Hong Kong Sanatorium & Hospital, Hong Kong; Honorary Consultant, Department of Medicine and Geriatrics, United Christian Hospital, Hong Kong; Associate Professor (Honorary), School of Public Health, The Chinese University of Hong Kong, Hong Kong; Honorary Clinical Associate Professor, Department of Medicine, The University of Hong Kong, Hong Kong

Jenny Yin-yan LEUNG, ***MBBS(HK), FRCP(Lond, Edin), FHKCP, FHKAM(Medicine), Specialist in Endocrinology, Diabetes and Metabolism***
Consultant, Department of Integrated Medical Services, Ruttonjee and Tang Shiu Kin Hospitals, Hong Kong; Honorary Clinical Associate Professor, Department of Medicine, The University of Hong Kong, Hong Kong

Raymond See-kit LO, ***MBBS(Lond), MD(CUHK), MHA(UNSW), Dip Geri Med(RCPS Glasgow), Dip Palliative Med(U Wales), FRCP(Lond, Edin, Glasg), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Consultant, Palliative Care Department, Shatin Hospital, Hong Kong; Chief of Service, Bradbury Hospice, Hong Kong; Clinical Professor (Honorary), Department of Medicine and Therapeutics, The Chinese University of Hong Kong, Hong Kong

James Ka-hay LUK, ***MBBS(HK), MSc(Experimental Medicine)(UBC), FRCP(Edin, Glasg, Irel), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Consultant Geriatrician and Chief of Service, Department of Medicine and Geriatrics, Fung Yiu King Hospital, Hong Kong; Honorary Clinical Associate Professor, Department of Medicine, The University of Hong Kong, Hong Kong

Christopher Chor-ming LUM, ***MBBS(HK), FRCP(Edin, Glasg), FRACP, FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Consultant Geriatrician, Department of Medicine and Geriatrics, Shatin Hospital, Hong Kong; Clinical Associate Professor (Honorary), Department of Medicine and Therapeutics, The Chinese University of Hong Kong, Hong Kong

Bosco Hon-ming MA, ***MBChB(CUHK), MD(CUHK), FRCP(Glasg), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Associate Consultant, Department of Medicine and Therapeutics, Prince of Wales Hospital, Hong Kong; Clinical Assistant Professor (Honorary), Department of Medicine and Therapeutics, The Chinese University of Hong Kong, Hong Kong

Loar Ka-keung MO, ***MBChB(CUHK), MBA(CUHK), FRCP(Edin, Glasg, Lond), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Consultant Physician and Geriatrician, Department of Medicine, Yan Chai Hospital, Hong Kong; Clinical Associate Professor (Honorary), Department of Medicine and Therapeutics, The Chinese University of Hong Kong, Hong Kong

Francis Chun-keung MOK, ***MBBS(HK), MHA(UNSW), FRCP(Lond, Edin, Glasg), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Consultant Geriatrician and Chief of Service, Department of Medicine and Geriatrics, Tuen Mun Hospital, Hong Kong; Clinical Associate Professor (Honorary), Department of Medicine and Therapeutics, The Chinese University of Hong Kong; Honorary Clinical Associate Professor, Department of Family Medicine and Primary Care, The University of Hong Kong, Hong Kong

Ada Chan Yuk-sim MUI, ***PhD(MSW) (WashingtonU), LMSW, ACSW***
Professor, Columbia University School of Social Work, New York; Honorary Advisor, Sau Po Centre on Ageing, The University of Hong Kong, Hong Kong; Honorary Professor of Social Work, Department of Social Work and Social Administration, The University of Hong Kong; Fellow, Social Policy Research Center, National Taiwan University, Taiwan; Honorary Professor of Social Work, Beijing Normal University, Beijing Youth Politics College, China

Jennifer Ma Wai-wai MYINT, ***MBBS(HK), MRCP(UK), FHKCP, FHKAM(Medicine), Specialist in Rehabilitation***
Consultant and Chief of Service, Department of Rehabilitation, Kowloon Hospital, Hong Kong; Honorary Clinical Associate Professor, Department of Family Medicine and Primary Care, The University of Hong Kong, Hong Kong

Man-fai NG, ***MBBS(HK), FRCP(Edin), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Associate Consultant, Department of Medicine and Geriatrics, Tuen Mun Hospital; Honorary Clinical Assistant Professor, Department of Family Medicine and Primary Care, The University of Hong Kong, Hong Kong, Hong Kong

Pey-chyou PAN, ***MBBS(HK), MRCPsych, FHKCPsych, FHKAM(Psychiatry), Specialist in Psychiatry***
Associate Consultant (Psychiatry), Psychogeriatric Service, Kowloon East Cluster, Hospital Authority, Hong Kong; Honorary Clinical Associate Professor, Department of Psychiatry, The University of Hong Kong, Hong Kong; Clinical Associate Professor (Honorary), Department of Psychiatry, The Chinese University of Hong Kong, Hong Kong

Edmund Kwok-yiu SHA, ***MBChB(CUHK), MRCP(UK), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Consultant, Department of Medicine and Geriatrics, United Christian Hospital, Hong Kong

Yat-fung SHEA, ***MBBS(HK), MRCP(UK), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Resident Specialist (Medicine), Queen Mary Hospital, Hong Kong

Bun SHENG, ***MBChB(CUHK), MSc(CUHK), FRCP(Edin), FHKCP, FHKAM(Medicine), Specialist in Neurology***
Associate Consultant, Department of Medicine and Geriatrics, Princess Margaret Hospital; Clinical Associate Professor (Honorary), Department of Medicine and Therapeutics, The Chinese University of Hong Kong, Hong Kong; Honorary Clinical Assistant Professor, Department of Family Medicine and Primary Care, The University of Hong Kong, Hong Kong

Tiong-chee SIM, ***MBBS(Singapore), FRCP(Glasg), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Consultant Geriatrician, Department of Medicine and Geriatrics, United Christian Hospital, Hong Kong; Honorary Clinical Assistant Professor, Department of Medicine, The University of Hong Kong, Hong Kong

Hoi-yin TANG, ***MBBS(HK), FHKCPsych, FHKAM(Psychiatry), Specialist in Psychiatry***
Associate Consultant, Department of Psychiatry, Kwai Chung Hospital, Hong Kong; Honorary Clinical Assistant Professor, Department of Psychiatry, The University of Hong Kong, Hong Kong

May Wing-han TANG, ***MBChB(CUHK), MSc, FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Associate Consultant, Department of Medicine and Geriatrics, Princess Margaret Hospital, Hong Kong; Clinical Assistant Professor (Honorary), Department of Medicine and Therapeutics, The Chinese University of Hong Kong; Honorary Clinical Assistant Professor, Department of Family Medicine and Primary Care, The University of Hong Kong, Hong Kong

Bing-chung TONG, ***MBBS(HK), MSSc(Counselling), MASW(FCP & FT), FRCP(Edin, Glasg), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Consultant, Department of Medicine and Geriatrics, Princess Margaret Hospital; Honorary Clinical Assistant Professor, Department of Family Medicine and Primary Care, The University of Hong Kong, Hong Kong; Clinical Assistant Professor (Honorary), Department of Medicine and Therapeutics, The Chinese University of Hong Kong, Hong Kong

Karen Hong-yun WAT, ***MBChB(CUHK), MRCPsych, FHKCPsych, FHKAM(Psychiatry), DipMed(CUHK), Specialist in Psychiatry***
Consultant, Psychogeriatric Team, Kwai Chung Hospital, Hong Kong

Chun-por WONG, ***MBBS(HK), MHA(UNSW), FRCP(Lond, Glasg), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Private Practice; Honorary Clinical Associate Professor, Department of Medicine, The University of Hong Kong, Hong Kong

Tin-wai WONG, ***MBChB(CUHK), MRCP(UK), FHKCP, FHKAM(Medicine), Specialist in Endocrinology, Diabetes and Metabolism***
Associate Consultant, Department of Integrated Medical Services, Ruttonjee and Tang Shiu Kin Hospitals, Hong Kong; Honorary Clinical Assistant Professor, Department of Medicine, The University of Hong Kong, Hong Kong

Pan YEUNG, ***MBChB(CUHK), MRCP(UK), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Part time Associate Consultant, Department of Medicine and Geriatrics, Princess Margaret Hospital, Hong Kong

Edwin Chi-shing YU, ***MH, MBBS(HK), FRCPsych, FHKCPsych, FHKAM(Psychiatry), Specialist in Psychiatry and Psychogeriatrics***
Consultant Psychiatrist, and Consultant Psychogeriatrician, Kwai Chung Hospital; Honorary Research Fellow Asia Pacific Institute of Gerontology Study, Ling Nam University, Hong Kong

Teresa Kim-kam YU, ***MBChB(CUHK), FRCP(Edin), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Senior Medical Officer, Department of Rehabilitation, Kowloon Hospital, Hong Kong; Honorary Clinical Assistant Professor, The University of Hong Kong, Hong Kong

Jacqueline Kwan-yuk YUEN, ***AB(Harvard), MD(UMich), DABIM, DABIM(Ger), DABIM(HPM), Specialist in Geriatric and Palliative Medicine***
Clinical Lecturer, Department of Medicine and Therapeutics, The Chinese University of Hong Kong, Hong Kong

Daniel Ka-lok YUK, ***MBChB(CUHK), MRCP(UK), MSc(Clinical Gerontology), FHKCP, FHKAM(Medicine), Specialist in Geriatric Medicine***
Associate Consultant, Department of Medicine and Geriatrics, Shatin Hospital, Hong Kong; Clinical Tutor (Honorary), Department of Medicine and Therapeutics, The Chinese University of Hong Kong, Hong Kong

CHAPTER 1L

Development and Practice of Geriatric Medicine

Tak-kwan KONG

Multiple Choice Questions

1. Which of the following is not a classic "geriatric giant" as described originally by Bernard Isaacs?
   (a) Intellectual decline
   (b) Instability
   (c) Immobility
   (d) Insanity
   (e) Incontinence

2. Which of the following is not a feature of a biologically aged patient?
   (a) Multiple pathologies
   (b) Multiple aetiologies
   (c) Presentation with a chief complaint
   (d) Complex needs
   (e) Functional decline

Case Scenarios

1. The following poem was found in a room of a nursing home resident after her death:

"What do you see nurses. What do you see.
Are you thinking, When you are looking at me?
A crabbit old woman, not very wise.
Uncertain of habit, faraway eyes.
Who dribbles her food, and makes no reply.
When you say in a loud voice, 'I do wish you'd try.'
Who seems not to notice, the things that you do.
And forever is losing, a stocking or shoe.
Who unresisting or not lets you do as you will.
When bathing and feeding, the long day to fill.
Is that what you are thinking, is that what you see?
Then open your eyes nurse, you are not looking at me.

I'll tell you who I am, as I sit here so still.
As I use at your bidding, as I eat at your will.
I'm a small child of ten, with a father and mother.
Brothers and sisters, who love one another.
A young girl of sixteen, with wings on her feet.
Dreaming that soon now a lover she'll meet.
A bride soon at twenty, my heart gives a leap.
Remembering the vows that I promised to keep.
At twenty-five now, I have young of my own.
Who need me to build a secure happy home.
A woman of thirty, my young now grow fast.
Bound to each other, with ties that should last.
At forty my young sons now grow and will be gone.
But my man stays beside me to see, I don't mourn.
At fifty, once more babies play round my knee,
Again we know children, my loved ones and me.

Dark days are upon me, my husband is dead.
I look at the future, I shudder with dread.
For my young are all busy, rearing young of their own.
And I think of the years, and the Love that I've known.
I'm an old woman now, and nature is cruel.
It's her jest, to make old age look like a fool.
The body it crumbles, grace and vigour depart.
There is now a stone, where I once had a heart.
But inside this old carcass, a young girl still dwells.
And now and again, my battered heart swells,
I remember the joys I remember the pain.
And I'm loving and living, life all over again.
I think of the years, all too few — gone too fast,
And accept the stark fact that nothing can last.
So open your eyes, nurses, open and see,
Not a crabbit old woman. Look closer — see me."

Questions for discussion:
(a) What did the nurses see in this old woman, and how did this old woman perceive herself? Why was there a discrepancy?
(b) Would this poem affect the way you approach nursing home residents, and how?

2. A 77-year-old woman was admitted to hospital for the second time in a year for injurious fall, the first time with Colles fracture, and this time with fractured femur. She had been under the care of three specialists; and her medication was as follows:
   - Isosorbide dinitrate (Isordil Tembid) 40 mg bd
   - Trinitroglycerin one tab SL prn
   - Nifedipine (Adalat) 10 mg tds
   - Trimetazidine (Vastarel) 20 mg tds
   - Dipyridamole (Persantin) 75 mg bd
   - Bromazepam (Lexotan) 0.75 mg bd
   - Lorazepam (Ativan) 1 mg nocte
   - Pizotifen 0.5 mg qd
   - Motival (fluphenazine 0.5 mg, nortriptyline 10 mg) one tab qd
   - Flupenthixol (Fluanxol) 1 mg om
   - Levomed (L-dopa 100 mg, carbidopa 25 mg) half tab bd
   - Benzhexol hydrochloride (Artane) 2 mg bd
   - Beserol (paracetamol 450 mg, chlormezanone 100 mg) one tab tds
   - Papain tab one tds

   Questions for discussion:
   (a) What diseases might she have?
   (b) Try to figure out how the diseases and the drugs she had been taking might be related to her recurrent falls.
   (c) Indicate by a flow diagram the possible relationships between her diseases, drugs, and falls.

Audit

Review 10 of your elderly patients in your clinic and comment on:
(a) Presence of the geriatric syndromes (as listed under Table 1.1 of Chapter 1) by actively asking / assessing your patients.
(b) How many of these geriatric syndromes have not previously been recorded or noticed?
(c) Does the new detection of these geriatric syndromes lead to discovery of previously undiagnosed medical conditions?

Data Interpretation

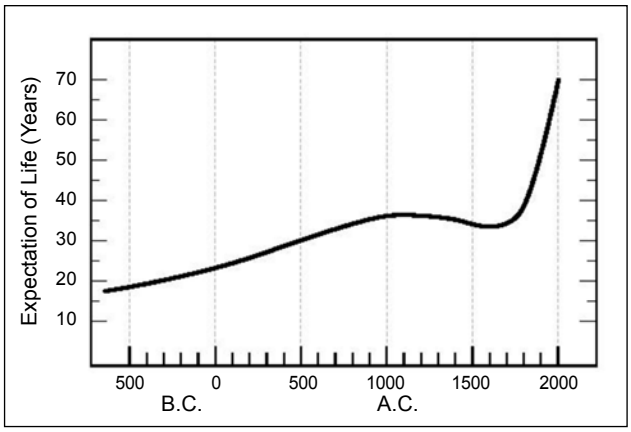


Figure 1L.1 The average expectancy of life of new born children at various times in history

Questions for discussion:
(a) Why was there a downturn in life expectancy in the 14th century?
(b) What factors might have accounted for the sharp rise in life expectancy in the 19th century?
(c) What was the average life expectancy when Marjory Warren introduced the concept of geriatric medicine in the 1940's?

Journal Reading

1. Tallis R. Biological ageing, illness in old age and geriatric services. J Hong Kong Geriatr Soc 1993;4:4-11.

   Questions for discussion:
   (a) What is biological ageing?
   (b) Illustrate with examples some of the features of biologically aged patients you have come across in your clinical practice.

2. Cosco TD, Armstrong JJ, Stephan BC, Brayne C. Successful aging and frailty: mutually exclusive paradigms or two ends of a shared continuum? Can Geriatr J 2015;18:35-6.

   Questions for discussion:
   (a) What is successful ageing?
   (b) What is frailty?
   (c) Illustrate with examples some of the features of successful ageing and frailty you have come across in your clinical practice.

3. Gray M. The second cultural revolution in geriatric medicine. British Geriatrics Society Newsletter 2017;Jun:4-7.

   Questions for discussion:
   (a) What is multi-specialty medical care?
   (b) Illustrate with examples some of the features of under-diagnosis, under-treatment, over-diagnosis, and over-treatment you have come across in your clinical practice.
   (c) What is fitness gap and how is this related to frailty?
   (d) How can you promote fitness and living well in your clinical practice?

4. Kong TK. Through the looking glass: Diogenes syndrome or syndrome of extreme self-neglect. J Hong Kong Geriatr Soc 1997;8:54-5.

   Read the above article about an 85-year-old woman who was initially thought to have a placement or social problem, but was readmitted soon and died. Questions for discussion:
   (a) How would this case illustrate the pseudo-silent presentation?
   (b) What geriatric syndromes might be present in this old woman, and what are the possible interrelationships and interactions among them?

5. Currie C. Accident, emergency, or what? Age Ageing 2005;34:6-7.

   Elderly people frequently present to accident and emergency departments. Read the above article and discuss:
   (a) What are the limitations of traditional accident and emergency services in meeting the needs of elderly people who present to them?
   (b) How might such limitations be overcome?

CHAPTER 2L

COMPREHENSIVE GERIATRIC ASSESSMENT

Tak-kwan KONG

Multiple Choice Questions

1. Which one of the following organisational elements is not associated with effective comprehensive geriatric assessment (CGA) programmes?
   (a) Targeting the frail
   (b) Targeting the fit
   (c) Interdisciplinary team structure
   (d) Management with clinical control of treatment and care
   (e) Long-term follow-up

2. Which of the following will affect the outcome of a cognitive test?
   (a) Educational background
   (b) Language and communication disorders
   (c) Impaired hearing
   (d) Depression
   (e) All of the above

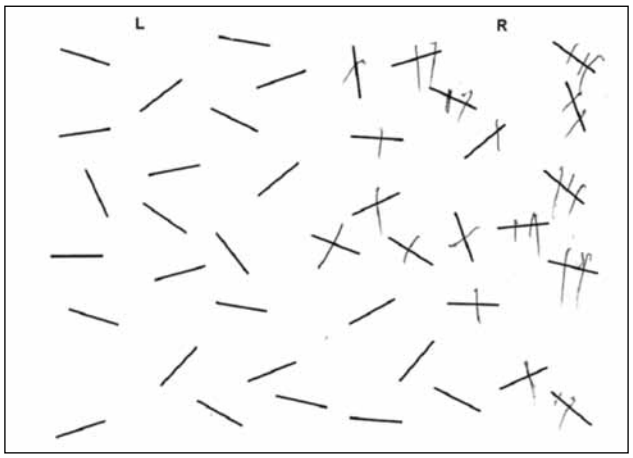
Case Scenario

1. An 87-year-old woman was repeatedly hospitalised for heart failure with atrial fibrillation not well controlled by digoxin and diuretics. She moved to a private aged home after her second hip fracture at the age of 86 years. Prior to the second fracture, she lived with her working daughter and could take care of her grandchildren. Medical records revealed the following:
   Age 80: ? Chronic rheumatic heart disease, atrial fibrillation
   Age 84: Fractured neck of right femur after a fall
   Age 85: Perforated duodenal ulcer with patch repair
   Age 86: Gastrointestinal bleeding, heart failure, confusion, subtrochanteric fracture of left femur after a fall, urinary incontinence. Discharged to a private aged home
   Age 87: Heart failure, left ankle sore

   Questions for discussion:
   (a) What geriatric giants / syndromes could account for her functional decline? What were the possible underlying causes of the geriatric giants / syndromes? How would disease, drugs, and social factors interact to result in these geriatric giants / syndromes and her dependent state?
   (b) If you saw the patient aged 86 years when she was hospitalised for fractured left hip as part of an orthogeriatric service, how would you perform a CGA? How would CGA help in formulating a care plan for her?

Data Interpretation

1. During an interdisciplinary team round, a geriatric nurse commented that an acute stroke patient left half of his meal untouched and an occupational therapist presented below the finding of the Albert's line cancellation test performed for this stroke patient.



Questions for discussion:

(a) What does this test show? How can the test result be quantified?

(b) What is his prognosis for eventual functional recovery from stroke?

Journal Reading

1. CGA prior to entry to care homes

   (a) Challis D, Clarkson P, Williamson J, et al. The value of specialist clinical assessment of older people prior to entry to care homes. Age Ageing 2004;33:25-34.

   (b) Brocklehurst JC, Carty MH, Leeming JT, Robinson JM. Medical screening of old people accepted for residential care. Lancet 1978;312:141-3.

   Entry to care homes is a critical life event for an elder, and studies have shown this may be precipitated by a social presentation of undiagnosed medical conditions. Read the above articles and discuss the following:

   (a) What were the medical conditions undiagnosed and subsequently detected on specialist geriatric assessment?

   (b) What are the issues of implementation and how can pre-placement assessment be put into practice?

2. CGA in different healthcare settings and specific clinical conditions

   (a) Pilotto A, Cella A, Pilotto A, et al. Three decades of comprehensive geriatric assessment: evidence coming from different healthcare settings and specific clinical conditions. J Am Med Dir Assoc 2017;18:192.e1-11.

   Studies have shown that the effectiveness of CGA programmes may be modified by different healthcare settings and specific clinical settings / conditions. Read the above article and discuss:

   (a) What are the key components of CGA?

   (b) Discuss the effectiveness of a CGA programme in the different healthcare settings of home, hospital, post-hospital discharge, outpatient consultation, and inpatient geriatric consultation.

   (c) Discuss the effectiveness of a CGA programme in various specific clinical settings / conditions of preoperative assessment, the emergency department, an orthogeriatric unit, cancer and cognitive impairment.

CHAPTER 3L

ACUTE GERIATRIC CARE

Chun-por WONG

Multiple Choice Questions

1. In taking a good clinical history from a frail older patient, which of the following is not useful:
   (a) A suitable hearing aid
   (b) An existing caregiver who can corroborate patient history
   (c) Computer clinical software
   (d) A structured pain scale
   (e) An adequate length of time for consultation

2. In performing a comprehensive geriatric assessment, which of the following is FALSE?
   (a) All items should be completed
   (b) It should be adapted to the individual patient
   (c) Ideally a multidisciplinary team should be involved
   (d) The assessment can be done during multiple visits
   (e) A domiciliary visit might be helpful

Audit

Make an attempt to audit all your patients aged ≥80 years who present to you with an acute illness. Try to make a classification of the various common clinical conditions from which these older patients have. At the same time, list the associated comorbidities of these patients and comment on your suggested drug treatment with respect to the existing comorbidities. Note particularly any drug-drug interactions and disease-drug interactions.

CHAPTER 4L

GERIATRIC REHABILITATION

Mandy Pui-man FUNG, Jennifer Ma Wai-wai MYINT

Case Scenario

An 80-year-old lady with a history of memory impairment (not formally assessed) and living alone fell while walking downstairs, resulting in fractured trochanter of left femur. This was treated with fixation by dynamic hip screw, and she was transferred to a rehabilitation ward on postoperative day 5. Recovery was complicated by a urinary tract infection (UTI), retention of urine, and delirium during her rehabilitation. She has a limited social support network and plans to live on her own on discharge. Assessment by therapists shows that she has adequate safety awareness, can manage basic activities of daily living independently with a walking frame and bathing with setup and supervision. A domiciliary visit with simple modifications has been performed (handrail in bathroom). She can walk with a frame on discharge at postoperative week 6 and can manage one flight of stairs with mild assistance. Home help with meals-on-wheels and a bathing service have been arranged and integrated care model for discharge support has been contacted for post-discharge follow-up. She avoids going out because of fear of fall (she needs to walk one flight of stairs to take lift).

Her functional status at discharge was satisfactory and due attention has been paid to safety issues. Why may she still have unfavourable mid-term (e.g. in 3 months) and long-term outcome (e.g. in 12 months)?

Multiple Choice Questions

1. Which of the following statements are correct in relation to frailty?
   (i) Sarcopenia is a key feature of frailty.
   (ii) There is high prevalence of around 50% of the elderly population over 75 years.
   (iii) Unintentional weight loss is one of the features.
   (iv) Reduced sleeping time is one of the features.
   (v) Environmental stress may play a role.

   (a) i, ii, iii
   (b) ii, iii, iv
   (c) iii, iv, v
   (d) i, iii, v
   (e) i, iii, iv

2. Which of the following statements are correct?
   (i) A walking frame should always be considered to be the first walking aid for elderly patients because of its large base of support.
   (ii) For dementia patients, more cushioning to provide more surface contact in seating planning is recommended.
   (iii) The use of metabolic equivalent for exercise prescription are derived from young healthy subjects.
   (iv) Swimming has little benefit for the elderly with osteoporosis.
   (v) For exercise prescription using rate of perceived exertion for elderly, level 2-7 is recommended.

   (a) i, ii, iii
   (b) ii, iii, iv
   (c) iii, iv, v
   (d) i, iii, v
   (e) i, iii, iv

CHAPTER 5L

LONG-TERM HOSPITAL CARE: INFIRMARY CARE

Tak-kwan KONG

Multiple Choice Questions

1. Which one of the following is not associated with high-quality long-term care?
   (a) Personalised key worker
   (b) Safety vest to prevent falls
   (c) Chair of appropriate height
   (d) Appropriate seating
   (e) Reduced polypharmacy

2. Which of the following item(s) should be included in assessment of an infirmary applicant?
   (a) Cognition
   (b) Vision
   (c) Medications
   (d) Functional status
   (e) All of the above

Journal Reading

1. Anderson K, Baraldi C, Supiano M. Identifying failure to thrive in the long term care setting. J Am Med Dir Assoc 2012;13:665.e15-9.

   Geriatric failure-to-thrive is a common syndrome encountered in the long-term care setting giving rise to functional decline. Read the above article and discuss:
   - What medical conditions and risk factors have been shown to contribute to geriatric failure-to-thrive?
   - How can geriatric failure-to-thrive be identified early in the long-term care setting?

2. Katz PR. An international perspective on long term care: focus on nursing homes. J Am Med Dir Assoc 2011;12:487-492.e1.

   Read the above article and discuss:
   - What are the frequently cited concerns about quality of care in institutional long-term care?
   - Will increasing home care services invariably lessen the need for nursing home care? Why?

3. Brocklehurst J, Dickinson E. Autonomy for elderly people in long-term care. Age Ageing 1996;25:329-32.

   Read the above article and discuss:
   - What are the areas for improvement identified in this audit on autonomy for long-term care in the UK?
   - Reflect on a long-term care institution where you have worked and discuss how this would compare with those in the UK with respect to autonomy for elderly residents.

CHAPTER 6L

COMMUNITY GERIATRICS — RESIDENTIAL CARE HOME MEDICINE

Francis Chun-keung MOK, Alfred Si-yan AU, Bernard Ming-hei KONG

Multiple Choice Questions

1. Ms Chan is a 68-year-old woman with hypertension residing alone in a private residential care home for the elderly (RCHE). Which of the following is / are her important healthcare need(s)?
   i. Administration of influenza vaccine
   ii. Annual mammography
   iii. Fall prevention and bone health concern
   iv. Assessment for presence of S4 heart sound
   v. Nutritional status monitoring
   (a) i, ii, iii
   (b) ii, iii, iv
   (c) i, ii, iii, v
   (d) i, iii, v
   (e) All of the above

2. Which of the following is / are important function(s) of Community Geriatric Assessment Service in RCHEs?
   i. Primary health screening of RCHE inmates
   ii. Infection outbreak surveillance
   iii. Admission assessment of elderly persons for RCHE
   iv. Staff education and skill enhancement
   v. Complaint management of RCHE inmates
   (a) i, ii, iii
   (b) ii, iii, iv
   (c) i, ii, iii, v
   (d) i, iii, v
   (e) All of the above

Case Scenario

Mr Chan, aged 75 years, has poor relationships with his son and daughter-in-law. He has been a patient of your clinic for more than 10 years. He complains of fatigue, difficulty in falling asleep, and worrying about his death. Physical examination and laboratory investigations failed to reveal anything abnormal. He wants to live in a RCHE to avoid being a burden to his son.

Questions for discussion:
a. How would you manage his condition?
b. Does he need to live in a RCHE?
c. If he insists on being institutionalised, to whom would you refer him for his application of residential care service?

Journal Reading

1. Messinger-Rapport BJ, Thomas DR, Gammack JK, Morley JE. Clinical update on nursing home medicine: 2008. J Am Med Dir Assoc 2008;9:460-75.
2. Messinger-Rapport BJ, Thomas DR, Gammack JK, Morley JE. Clinical update on nursing home medicine: 2009. J Am Med Dir Assoc 2009;10:530-3.
3. British Geriatrics Society. Quest for Quality: British Geriatrics Society Joint Working Party Inquiry into the quality of healthcare support for older people in care homes: A call for leadership, partnership and quality improvement. London: British Geriatrics Society; 2011.

CHAPTER 7L

COMMUNITY GERIATRICS — TRANSITIONAL CARE AND DISCHARGE SUPPORT PROGRAMMES

Man-fai NG, Edmund Kwok-yiu SHA, Bing-chung TONG

Multiple Choice Questions

1. Which of the following statement(s) about unplanned readmission is / are true?
   (i) Clinical factors such as low threshold for admission, premature discharge, drug-related adverse event, and patient factors such as compliance problems contribute to a major proportion of unplanned readmissions.
   (ii) Most unplanned readmissions are thought to be avoidable.
   (iii) Adverse drug events are the most common type of adverse event and contribute to unplanned readmission.
   (iv) All hospital discharges of elderly patients should be classified as 'complex discharges' and require a comprehensive geriatric assessment.
   (v) Although there are various screening tools to identify patients at risk of unplanned readmission, none of them has been identified as a gold standard.
   (a) All of the above
   (b) i, ii, iii, iv
   (c) i, iii. v
   (d) i, ii, v
   (e) i, ii, iv

2. For which of the following patients would you anticipate a discharge problem, despite a relatively low risk score in the HARRPE (Hospital Admission Risk Reduction Programme for the Elderly)?
   (a) A 78-year-old man who is living alone, admitted to a medical ward with an acute exacerbation of chronic obstructive pulmonary disease. This is his third admission in a year.
   (b) A 63-year-old female patient who collapsed at work as a security guard, and is diagnosed with a cerebrovascular accident and right hemiplegia.
   (c) A 70-year-old female patient with chronic renal failure, supported by an elderly spouse and living in a public housing estate.
   (d) A 68-year-old male admitted for gouty arthritis with a history of diabetes mellitus, hypertension, hyperlipidaemia, and ischaemic heart disease.
   (e) A 90-year-old female admitted with a left hip fracture with a history of three falls and attendance at accident and emergency department last year.

3. Which of the following are measures implemented by the pilot Integrated Discharge Support Programme to support recruited elderly patients?
   (i) Elderly sitting services by Home Support Team
   (ii) Telephone hotline support
   (iii) Fast-track geriatric day hospital attendance
   (iv) Priority rehabilitation unit admission
   (a) i, ii
   (b) ii, iii
   (c) i, ii, iii
   (d) All of the above
   (e) None of the above

Journal Reading

1. Coleman EA. Falling through the cracks: challenges and opportunities for improving transitional care for persons with continuous complex care needs. J Am Geriatr Soc 2003;51:549-55.
2. Rennke S, Nguyen OK, Shoeb MH, Magan Y, Wachter RM, Ranji SR. Hospital-initiated transitional care interventions as a patient safety strategy: a systematic review. Ann Intern Med 2013;158:433-40.
3. Burke RE, Kripalani S, Vasilevskis EE, Schnipper JL. Moving beyond readmission penalties: creating an ideal process to improve transitional care. J Hosp Med 2013;8:102-9.
4. UK Department of Health. Achieving timely 'simple' discharge from hospital: a toolkit for the multi-disciplinary team. 2004. Available from: http://webarchive.nationalarchives.gov.uk/20130107105354/http:/www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_4088367.pdf.
5. Young J. The development of intermediate care services in England. Arch Gerontol Geriatr 2009;49 Suppl 2:S21-5.

Please give a critical review of the components and different strategies of effective transitional care.

CHAPTER 8L

GERIATRIC DAY HOSPITAL

James Ka-hay LUK

Multiple Choice Questions

1. Which of the following concerning geriatric day hospitals (GDHs) is true?
   (a) The main functions of a GDH are provision of medical treatment and social care.
   (b) There are GDHs in all seven clusters in Hong Kong.
   (c) Dementia patients are not suitable for GDH training.
   (d) The best regimen for GDH treatment is 5 days a week for 10 weeks.
   (e) Wound care will not usually be provided at a GDH.

2. Concerning the benefits of a GDH, which of the following is false?
   (a) It allows patients to continue rehabilitation after discharge from hospital.
   (b) It allows patients to be discharged earlier from hospital.
   (c) It provides a one-stop unit for comprehensive geriatric assessment and management for complex elderly patients.
   (d) It enables simultaneous intervention in large numbers of patients in the same place, making effective use of multidisciplinary professional staff and equipment.
   (e) It has been proven consistently to be less expensive than inpatient care.

3. Which of the following affect(s) GDH performance?
   (a) Staffing
   (b) Equipment
   (c) Size of the GDH
   (d) Availability of transport to / from a GDH
   (e) All of the above

Case Scenarios

1. You are responsible for setting up a new GDH in Hong Kong and you need to propose how this will be achieved.

   Questions for discussion:
   (a) Will you propose the future GDH to be situated inside a hospital or away from the hospital? Why?
   (b) What is the size of the GDH you want to establish?
   (c) What staff do you require for the GDH?
   (d) Besides rehabilitation services, what special geriatric services do you want to establish in the future GDH?
   (e) How are you going to monitor the performance of the future GDH and report to your Cluster Chief Executive and the head office?
   (f) How are you going to arrange transportation to / from the GDH?
   (g) The surgeons, orthopaedic surgeons, and private doctors ask for a 'green light' to directly refer their patients to the GDH without screening. How will you respond to this request?

2. A frail and thin old man with advanced Parkinson's disease and dementia (Mini-Mental State Examination score of 11/30) has just completed a prolonged course of GDH rehabilitation. The GDH multidisciplinary team conclude that "potential for rehabilitation is limited". Upon discharge, he is able to walk a few steps with a rollator and two maximum supports. He is dependent for most activities of daily living. He is now living in a subsidised residential care home with in-house maintenance physiotherapy twice a week.

   His daughter brings his father to your clinic for follow-up. She asks you to refer him to GDH again for another course of intensive rehabilitation.

Questions for discussion:

(a) Do you think the patient can benefit from another course of GDH treatment? Please provide reasons for your answer.
(b) How are you going to explain your decision to the daughter?
(c) Besides GDH, what can be offered by the residential care home for his condition?

3. You are asked to conduct a study to prove the effectiveness and benefits of GDHs compared with day care centres run by a non-governmental organisation in Hong Kong.

Questions for discussion:

(a) What is the evidence to date for the benefits of GDHs compared with other community rehabilitation services?
(b) How are you going to arrange the above study? Please discuss the methodology.
(c) What are you going to measure in order to show the difference between GDH and day care centre services?
(d) What will be the impact of this study on GDH services both locally and globally?

CHAPTER 9L

TELEMEDICINE

Teresa Kim-kam YU

Multiple Choice Questions

1. Which of the following is NOT an example of 'smart home' telecare equipment?
   (a) Gas leak detector
   (b) Fall detectors
   (c) Blood pressure machine
   (d) Electronic prompts to ensure medication intake
   (e) Echocardiogram machine

2. In the literature, the following are major categories of telemedicine programmes, except
   (a) Home health care, e.g. telephone follow-up
   (b) Store and forward of clinical data
   (c) Self-monitoring / testing
   (d) Critical care pathways
   (e) Clinician-interactive services

Journal Reading

1. Hjelm NM. Benefits and drawbacks of telemedicine. J Telemed Telecare 2005;11:60-70.

   According to the above article, one of the obstacles to implementation of telemedicine is resistance by healthcare workers. Which of the following is / are reason(s) for the resistance?
   (a) Perceived threat to the role and status of healthcare workers
   (b) Fear that telemedicine will increase the current workload
   (c) Lack of evidence as yet for the efficacy or cost-effectiveness of most telemedicine applications
   (d) Fear of technological obsolescence resulting from rapid technological advances
   (e) All of the above

CHAPTER 10L

PREVENTIVE GERIATRICS

Tai-pong LAM, Felix Hon-wai CHAN

Audit

1. Identify 20 consecutive elderly patients aged over 65 years attending your clinic and carry out an audit using the form below for the following information: age, sex, marital status, financial status, accommodation, community and / or family support, quality of life, health status assessment by you, health status assessment by patient, and major factors affecting health.

Patient No.	Age (years)	Sex	Marital status	Financial status	Accom-modation	Community and / or family support	Quality of life*	Health status assessment (by physician)*	Health status assessment (by patient)*	Major factors affecting health
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

* On a 1-5 rating scale (1=poor, 5=excellent)

Then write in 500 words what extra information you have obtained about these elderly patients that you did not have before. How would the new information help you in providing preventive care to these elderly patients?

2. Write a 1000-word essay on the following topic:
How would I approach the next elderly patient that I see in my clinic in order to provide comprehensive preventive care in biopsychosocial terms?

Journal Reading

1. Department of Health, Hong Kong SAR Government. Hong Kong Reference Framework for Preventive Care for Older Adults in Primary Care Settings. Available from: http://www.pco.gov.hk/english/resource/professionals_preventive_older_pdf.html.
2. Colledge NR. Ageing and disease. In: Colledge NR, Walker BR, Ralston SH, editors. Davidson's principles and practice of medicine. 21st ed. Edinburgh: Churchill Livingstone / Elsevier; 2010: 163-76.
3. Prevention. In: Kane R, editor. Essentials of clinical geriatrics. 7th ed. New York: McGraw-Hill; 2013: 93-122.
4. Merck Manual. Geriatrics: prevention of disease and disability. Available from: http://www.merck.com/mkgr/mmg/sec1/ch5/ch5a.jsp.
5. Evans JG, Williams TF, Beattie BL, Michel J-P, Wilcock GK, editors. Oxford textbook of geriatric medicine. 2nd ed. Oxford: Oxford University Press; 2000: 1126-35, 1139-43.

Questions for discussion:

(a) Respond to the following questions:
  (i) What is health?
  (ii) What is health promotion?
  (iii) What is preventive care?

(b) What are the contributors to poor health in elderly people? Spend 10 to 15 minutes to list the major contributors.

(c) What are important preventive measures in elderly people and why?

(d) What is stopping you from practising preventive care among elderly people? Spend 15 minutes on discussing this question.

CHAPTER 11L

PSYCHOGERIATRIC SERVICES

Pey-chyou PAN

Multiple Choice Questions

1. Which of the following is an element of the Elderly Suicide Prevention Programme?
   (a) Inpatient care
   (b) Telecheck
   (c) Psychogeriatric day-patient care
   (d) Aromatherapy
   (e) Multisensory stimulation

2. Which of the following is a defining feature of an elderly patient in psychogeriatrics?
   (a) Conformity
   (b) Convergence of psychiatric disorders
   (c) Compartmentalisation of functioning
   (d) Comorbidity of multiple interacting illnesses and their treatment
   (e) Compulsive personality structure

3. Where was the first psychogeriatric inpatient ward in Hong Kong located?
   (a) Siu Lam Hospital
   (b) Castle Peak Hospital
   (c) United Christian Hospital
   (d) Kowloon Hospital
   (e) Queen Mary Hospital

4. Which of the following is NOT a benefit of the psychogeriatric outreach service to residential care homes for the elderly (RCHE)?
   (a) Reduced need for elderly patients to travel to clinics
   (b) Improved communication between psychogeriatric professionals with caregivers
   (c) Improved access to inpatient treatment
   (d) Reduced pressure on psychogeriatric outpatient clinics
   (e) Reduced demand for transport and escort on RCHE

Journal Reading

1. Mukaetova-Ladinska EB, Cosker G, Coppock M, et al. Liaison old age psychiatry service in a medical setting: description of the Newcastle Clinical Service. Nurs Res Pract 2011;2011:587457.
   - In what ways can a liaison nursing team benefit the overall consultation liaison service?
   - Can a multidisciplinary consultation liaison service benefit patients in our locality?

2. Prina AM, Marioni RE, Hammond GC, Jones PB, Brayne C, Dening T. Improving access to psychological therapies and older people: findings from the Eastern Region. Behav Res Ther 2014;56:75-81.
   - Can you think of any reason why older people respond better to psychological therapies as shown in this study?
   - This studies shows that older people are less likely to be given psychological therapies. What are the obstacles and difficulties?

3. Benbow SM, Jolley D. One day in the life of old age psychiatrists in the United Kingdom. Int Psychogeriatr 2013;25:1023-32.
   - This article reported that between 1993 and 2012, psychogeriatricians in the UK had shifted away from clinical care of inpatients, towards work with patients and families in the community and other settings. What are the reasons for such a shift?
   - Consultant psychogeriatricians in the UK are also spending more time on administrative activities. Is the same thing happening in Hong Kong? Why?

4. Benbow SM. Patient and carer participation in old age psychiatry in England. Part II: models of participation. Int Psychogeriatr 2012;24:185-96.
   - What are the pros and cons of copying letters to patients in psychogeriatrics?
   - How should clinicians interact with consumer / self-help groups?

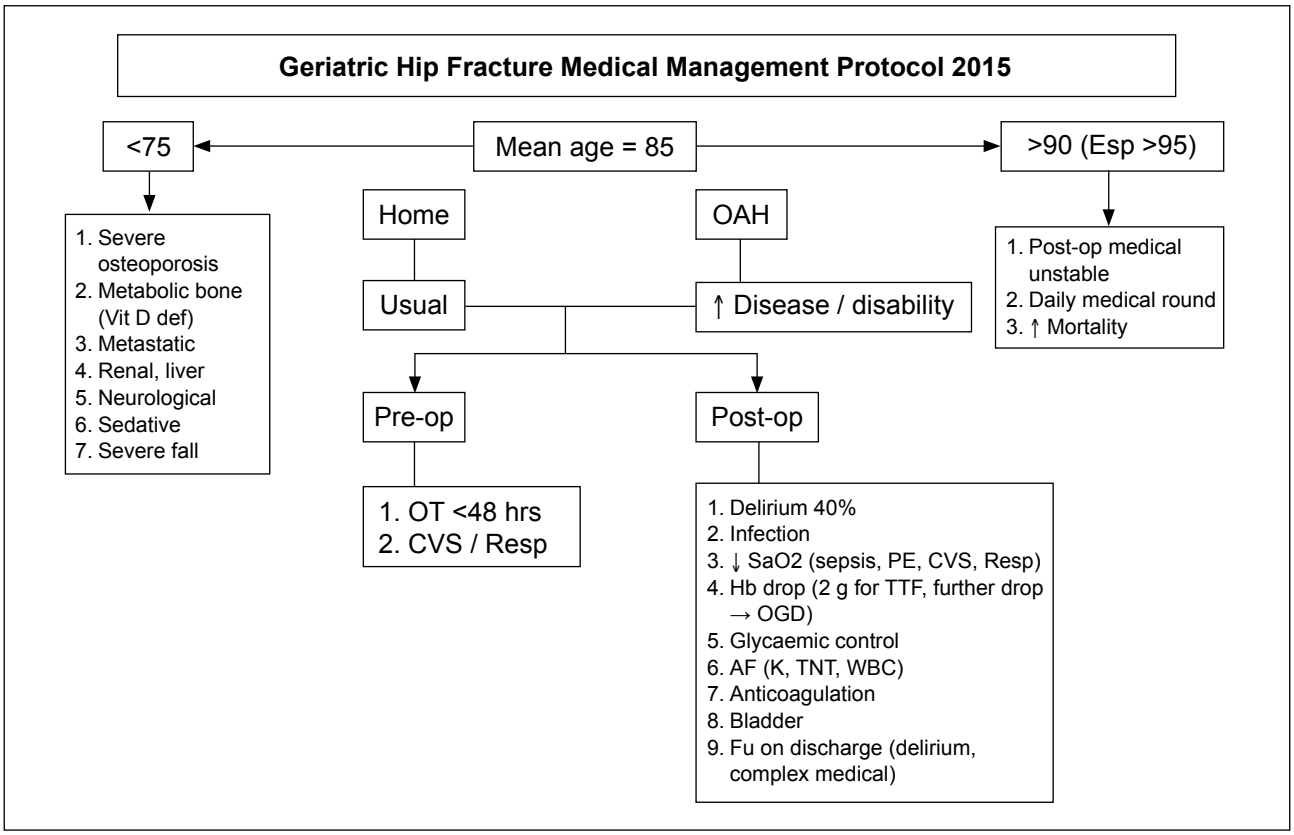
CHAPTER 12L

ORTHOGERIATRICS AND FRAGILITY FRACTURE IN OLD AGE

Jones Chun-man CHAN, David Lok-kwan DAI

Audit

1. With reference to the "Geriatric Hip Fracture Medical Management Protocol" shown below, review the case notes of 10 elderly patients admitted following fall and fragility fracture, and comment on the following:
   - What are the roles of the geriatrician during the preoperative, early postoperative, and rehabilitation periods in the management of patients with fragility fracture?
   - Do patients undergo multidisciplinary risk assessment for recurrent falls? Are the risk factors addressed?



Abbreviations: AF = atrial fibrillation; CVS / Resp = cardiorespiratory assessment; CVS, Resp = cardiorespiratory; Fu = follow-up; Hb = haemoglobin; K = potassium; OAH = residential care home; OGD = oxygen-glucose deprivation; OT = operate; PE = pulmonary embolism; Post-op = postoperative; Pre-op = preoperative; SaO2 = arterial oxygen saturation; TNT = troponin T; TTF = transtrochanteric fracture; Vit D def = vitamin D deficiency; WBC = white cell count

Case Scenarios

1. A 78-year-old man with a history of hypertension and mild cognitive impairment prescribed nifedipine retard 20 mg bd sustained a trochanteric fracture of the right femur. The preoperative and intraoperative course was uneventful. He exhibited confusion (agitation, insomnia, and disorientation) on postoperative day 2. There was no clinical evidence of infection, cerebrovascular accident, or acute myocardial infarction. Bladder scan indicated urinary retention following removal of catheter. Urinary catheter was reinserted. Trazodone 12.5 mg nocte was added for nocturnal agitation, and nifedipine retard was switched to metoprolol for hypertension. Confusion gradually resolved over the next few days, and his urinary catheter was removed.

   Questions for discussion:
   (a) What might have precipitated the confusion during the postoperative period?
   (b) How can delirium be prevented in susceptible elderly patients perioperatively?
   (c) What is the prognosis of delirium?
   (d) What rehabilitation services would you suggest?

2. An 85-year-old woman was admitted with acute fracture of the left neck of femur. Following surgery and Gamma nail implantation, she developed desaturation and required oxygen supplementation at 4 l/min to maintain percutaneous oxygenation of 95%. Clinically, there was elevated jugular venous pressure without lower limb oedema. Chest X-ray showed hypolucency of the left lung and elevated left hemi-diaphragm, and blood tests indicated a mildly elevated white cell count and troponin T level. She was treated with Tazocin (piperacillin and tazobactam) and frusemide for hospital-acquired pneumonia and heart failure, respectively. Then, she developed gastrointestinal bleeding with coffee ground vomiting and fresh melena, treated with infusion of a proton pump inhibitor. An urgent oesophago-gastro-duodenoscopy (OGD) revealed an acute bleeding ulcer that was managed by local adrenaline injection and heat probe. Computed tomographic scan of the thorax (with contrast) was performed in view of persistent desaturation despite optimal medical therapy, and indicated a small embolus in an artery of the posterior segment of the left lower lobe of the lung. Ultrasound Doppler scan showed deep vein thrombosis over the left lower limb. Anticoagulation was contraindicated because of a bleeding tendency. A filter was implanted in the inferior vena cava (IVC) to prevent further propagation of thrombus from the lower limbs to the lungs. A second OGD performed 2 weeks later confirmed a healed gastric ulcer. Warfarin was introduced and the IVC filter was removed.

   Questions for discussion:
   (a) What are the differential diagnoses for oxygen desaturation in the postoperative period?
   (b) How can deep venous thrombosis perioperatively be prevented?
   (c) What is the optimal duration for anticoagulation therapy?

Multiple Choice Questions

1. Which of the following statements about delirium in hip fracture patients is true?
   (a) It occurs mainly in patients with underlying dementia.
   (b) The incidence is 60%.
   (c) Urinary retention occurs mainly in elderly men.
   (d) It is associated with an increased risk of development of dementia in 2 years' time.
   (e) It is usually self-limiting and does not affect the length of hospital stay.

2. The following are possible causes of desaturation in hip fracture patients in the postoperative period, except:
   (a) pulmonary embolism
   (b) congestive heart failure from fluid overload
   (c) chest infection
   (d) general sepsis
   (e) analgesic overdose

Journal Reading

Orthogeriatric Model

1. De Rui M, Veronese N, Manzato E, Sergi G. Role of comprehensive geriatric assessment in the management of osteoporotic hip fracture in the elderly: an overview. Disabil Rehabil 2013;35:758-65.

The NI**CE (National Institute for Health and Care Excellence) guidelines on management of hip fractur**e in adults

2. The management of hip fracture in adults. 2011. Available from: https://www.nice.org.uk/guidance/cg124/evidence/full-guideline-183081997.
3. Hip fracture in adults. Quality standard (QS16). 2012. Available from: https://www.nice.org.uk/guidance/qs16/resources/hip-fracture-in-adults-2098488670405.

Perioperative management of patient with hip fracture

4. Mak JC, Cameron ID, March LM; National Health and Medical Research Council. Evidence-based guidelines for the management of hip fractures in older persons: an update. Med H Aust 2010;192:37-41.
5. Hung WW, Egol KA, Zuckerman JD, Siu AL. Hip fracture management: tailoring care for the older patient. JAMA 2012;307:2185-94.
6. Marsland D, Colvin PL, Mears SC, Kates SL. How to optimize patients for geriatric fracture surgery. Osteoporos Int 2010;21(Suppl 4):S535-46.

Aftercare and secondary prevention of fragility fracture

7. Akesson K, Marsh D, Mitchell PJ, et al. Capture the Fracture: a Best Practice Framework and global campaign to break the fragility fracture cycle. Osteoporos Int 2013;24:2135-52.
8. Eisman JA, Bogoch ER, Dell R, et al. Making the first fracture the last fracture: ASBMR task force report on secondary fracture prevention. J Bone Miner Res 2012;27:2039-46.

CHAPTER 13L

ONCOGERIATRICS

Tak-kwan KONG

Multiple Choice Questions

1. Which of the following regarding cancer in old age is false?
   (a) Biological age is more important than chronological age when making individual cancer treatment decisions.
   (b) Digoxin can cause delirium via its anticholinergic effect.
   (c) Karnofsky Performance Scale is useful in identifying older adults at increased risk of chemotherapy toxicity.
   (d) Comprehensive geriatric assessment in elderly cancer patients has been shown to reveal unsuspected geriatric syndromes.
   (e) Screening with 'tumour markers' may lead to overdiagnosis of cancers.

2. Which of the following is / are the goal(s) of cancer treatment in old age?
   (a) Cure if possible
   (b) Prolongation of survival
   (c) Prolongation of active life expectancy
   (d) Preservation of the quality of life
   (e) All of the above

Case Scenarios

1. A 67-year-old retired accountant was referred to the geriatric clinic by the Elderly Health Service (EHS) for an incidental finding of raised serum alkaline phosphatase of bone origin during health screening; blood test results quoted in the referral letter were: alkaline phosphatase 218 U/L (reference range, 30-120 U/L), heat stability index 0.1, alpha-fetoprotein 4 μg/L.

   He had no urinary or musculoskeletal symptoms, and his past health was good. He was functionally independent and enjoyed regular water sports (swimming, dragon boat) and table tennis. Examination revealed a prominence over the right head of humerus. A bone scan ordered for suspected Paget's disease of bone was reported as "Markedly increased bone tracer uptake over T12 and L1, right hemi-pelvis; moderately increased uptake over proximal right femur; and mildly increased uptake over left scapula, T10, proximal left tibia, left mastoid region of skull. Differential diagnosis includes Paget's disease and / or bone metastases. Suggest clinical correlation." X-rays of those regions with abnormal bone tracer uptake were reported as "Changes in the skull, TL spine, right hemipelvis and left proximal femur are compatible with Paget's disease."

   Because of concern about the raised bone alkaline phosphatase that indicated malignant bone disease, prostatic-specific antigen was measured at EHS and was raised at 9.9 μg/L (reference range, 0.01-4.00 μg/L), for which he was referred early to the urology clinic for suspected prostatic carcinoma. Irregular nodules of the prostate with preserved median groove were found on per-rectal examination. A transrectal ultrasound-guided biopsy confirmed prostatic cancer.

Questions for discussion:

(a) Are his bone lesions likely to be benign (Paget's disease of bone) or malignant (prostatic carcinoma with bony metastases)?
(b) A urologist would like to have the opinion of a geriatrician about this man's fitness for radical prostatectomy. What is your opinion?
(c) What will be your advice to the patient?

2. An 87-year-old semi-retired businessman was diagnosed with carcinoma of the prostate following magnetic resonance imaging and positron emission tomography scan for the finding of raised prostatic-specific antigen and acute retention of urine. He had multiple comorbidities, including hypertension with left ventricular hypertrophy, gout, type 2 diabetes mellitus, obesity, mitral regurgitation, atrial fibrillation for which he was prescribed warfarin for primary stroke prevention, and congestive heart failure for which he was on diuretics and digoxin.

   His vision was partially impaired by cataract despite a history of cataract extraction, and he was partially deaf requiring use of a hearing aid. He had callosities over both feet and chronic toe ulcers that necessitated regular podiatry care. His exercise tolerance was limited to indoor walking using a frame and he had to use a wheelchair for outdoor mobility. He was occasionally incontinent of urine. Despite his dependent physical function, his cognition was intact and he regularly visited his office. He lived with his wife, son and maid, who were all supportive.

   Questions for discussion:

   (a) How would comprehensive geriatric assessment help in deciding a management plan for this man?
   (b) A urologist would like to have the opinion of a geriatrician about this man's fitness for prostatectomy. What is your opinion?

   He subsequently sought hormonal treatment with regular Zoladex injections by an oncologist and was able to pass urine without the need for a urinary catheter. Four months later, his mobility reduced sharply with an attack of acute gouty arthritis that affected his right knee and ankle, for which he was given Arcoxia by an orthopaedic surgeon. His son noted that the patient was weak with nausea and poor intake over the last few days. Blood test revealed an acute drop in haemoglobin from 8 to 6 g/dL over a few days on top of a preceding insidious drop from 11.1 to 8 g/dL over 4 months.

   Questions for discussion:

   (a) Which of his medication(s) may be iatrogenic and how?
   (b) What will be your advice to the oncologist taking care of him?

Journal Reading

1. Jolly TA, Deal AM, Nyrop KA, et al. Geriatric assessment-identified deficits in older cancer patients with normal performance status. Oncologist 2015;20:379-85.
2. Kelly E, Stephens P. Cancer in the older person. Rev Clin Gerontol 2015;25:172-80.

Questions for discussion:

(a) What is the limitation of performance status (e.g. Karnofsky) when deciding cancer management for elderly cancer patients? How useful is a comprehensive geriatric assessment compared with performance status when assessing elderly cancer patients?
(b) How would you manage anaemia in cancer patients?
(c) How would you manage problems of bone health in cancer patients?

CHAPTER 14L

INDICATIONS FOR AND INTERPRETATION OF LABORATORY INVESTIGATIONS IN OLD AGE

Leung-wing CHU, Patrick Ka-chun CHIU

Multiple Choice Questions

1. Which of the following statement about electrolytes in old age is correct?
   (a) Hypernatraemia may occur in patients with conditions associated with fluid overload.
   (b) Hyperlipidaemia is one of the common causes of hyponatraemia.
   (c) Poor oral intake may cause hypokalaemia through intracellular shift of potassium in the body.
   (d) Non-steroidal anti-inflammatory drugs may cause hyperkalaemia.
   (e) Normal ageing may be associated with changes in the reference range of plasma sodium.

2. Which of the following statement about autoantibodies in old age is incorrect?
   (a) The presence of autoantibodies such as antinuclear antibodies (ANA) and rheumatoid factor is common in elderly patients without autoimmune disease.
   (b) The presence of antinuclear cytoplasmic antibodies is commonly found in healthy older adults.
   (c) The presence of ANA may be related to the use of hydralazine and phenytoin in old age.
   (d) Anti-Ro and anti-La antibodies, also known as SS-A and SS-B, respectively, are commonly found in primary Sjögren's syndrome, an autoimmune disorder that affects the exocrine glands.
   (e) The presence of anti–cyclic citrullinated peptide antibody in older adults with rheumatoid arthritis predicts a more aggressive course in the early stage of the disease.

CHAPTER 15L

Safe and Effective Use of Drugs in Old Age

Tak-kwan KONG, Felix Hon-wai CHAN, Jones Chun-man CHAN

Audit

1. Critically review the case notes and medication records of 10 elderly patients in your practice and comment on the following:
   (a) Presence of polypharmacy
   (b) Presence of inappropriate medication
   (c) Potential drug-drug interactions and drug-disease interactions
   (d) Potential problem with non-concordance
   (e) Presence of adverse drug reactions (ADRs) and prescribing cascade. Determine if these ADRs present as geriatric syndromes

Multiple Choice Questions

1. Which of the following statements regarding age-related pharmacokinetic changes in an 80-year-old adult is incorrect?
   (a) Absorption of drugs remains unchanged.
   (b) Total body water is decreased.
   (c) It takes longer time for fat-soluble drugs to take effect.
   (d) Drug metabolism is significantly slower.
   (e) Normal creatinine levels in the renal function tests indicate creatinine clearance is only 50% of that of a younger adult aged 20 years.

2. Which of the following statements regarding age-related pharmacodynamic changes in older adults is incorrect?
   (a) Older adults have increased susceptibility to the sedative effect of morphine.
   (b) Older adults have increased susceptibility to the sedative effect of sleeping pills.
   (c) Older adult adults have increased susceptibility to postural hypotension in response to antihypertensive drugs.
   (d) Older adults are more likely than younger adults to develop Parkinsonism after using drugs with antidopaminergic effects such as haloperidol.
   (e) The risk of bleeding is equal in younger and older adults with warfarin anticoagulation therapy.

3. Which of the following statements regarding the adverse drug reactions with use of non-steroidal anti-inflammatory drug in older adults is correct?
   (a) Cyclooxygenase (COX)-1 inhibitors have higher risk of renal impairment than COX-2 inhibitors.
   (b) COX-1 inhibitors have higher risk of myocardial infarction than COX-2 inhibitors.
   (c) COX-1 inhibitors have higher risk of congestive heart failure than COX-2 inhibitors.
   (d) COX-1 inhibitors have higher risk of peptic ulcer and gastrointestinal bleeding than COX-2 inhibitors.
   (e) When co-administered with aspirin, COX-2 inhibitors are safer than COX-1 inhibitors.

4. Which of the following drugs is not considered a potentially inappropriate medication for use in a 70-year-old person?
   (a) Use of hydroxyzine for treatment of skin itchiness.
   (b) Use of dipyridamole for stroke prevention in a patient complaining of postural dizziness.
   (c) Use of digoxin 250 μg/day for the treatment of atrial fibrillation in heart failure.
   (d) Use of glibenclamide for treatment of diabetes mellitus.
   (e) Use of spironolactone 25 mg/day for treatment of heart failure.

Case Scenarios

1. A 70-year-old man with a history of hypertension was hospitalised via accident and emergency department for dullness noted at home at midnight. Hypoglycaemia with haemoglucostix of 2.6 mmol/L was noted in the ambulance, and he regained full consciousness after glucagon injection. However, he developed recurrent hypoglycaemia (spot glucose, 0.9 mmol/L) 12 hours later while still on 10% intravenous dextrose infusion.

   Medication history:
   - Prescribed from general outpatient clinic: metoprolol 75 mg bd, Adalat retard (nifedipine) sustained release 20 mg om
   - Over-the-counter: red-yellow capsules for impotence
   - Findings on admission: body weight 45 kg, blood pressure 160/85 mm Hg, pulse 68/min, oxygen saturation 99% (room air), body temperature 37°C, respiratory rate 14/min, sodium 139 mmol/L, potassium 3.5 mmol/L, urea 10 mmol/L, creatinine 110 μmol/L, albumin 34 g/L, globulin 31 g/L, bilirubin 9 μmol/L, alkaline phosphatase 59 U/L, alanine aminotransferase 23 U/L, haemoglobin 13 g/dl, white blood cell 6.5 x 10^9 /L, platelet count 227 x 10^9 /L

   Questions for discussion:
   (a) What was the most likely cause of his dullness?
   (b) Was a pulse of 68/min compatible with his clinical picture and why?
   (c) What would you suspect when the patient developed recurrent hypoglycaemia despite intravenous dextrose 10% infusion, and how would you confirm your suspicion?
   (d) What was his renal function as estimated from:
      - Cockroft-Gault formula?
      - Abbreviated Modification of Diet in Renal Disease (Chinese) formula?
      - Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) [Chinese modification] formula?
      - CKD-EPI (Chinese modification) with removal of body surface area normalisation?
   (e) In your answers to (d), what would you use to guide your interpretation of his renal function in the light of what you suspect in (c)?

   (f) Name one iatrogenic cause of impotence in this patient.

2. Mr Chan, a 75-year-old-man with well-controlled diabetes mellitus and hypertension, comes to your office with three types of medications: gliclazide 80 mg bd, metoprolol 50 mg bd, and prazosin 0.5 mg bd. Pill count reveals that prazosin, which was added at the last visit for prostatic symptoms, is in gross excess. On further questioning, Mr Chan says that he experiences so much dizziness and unsteadiness after taking the medication that he has to recline to a sofa for obtaining relief. He suspects that the newly added prazosin is the cause of this unpleasant experience. Thus, he stopped taking it after a few days, and subsequently, has no more dizziness.

   Questions for discussion:
   (a) Is the patient's suspicion correct?
   (b) What type of non-compliance is this, and what is its clinical significance?
   (c) What is the likely diagnosis of dizziness and unsteadiness experienced by Mr Chan? Why does this occur in Mr Chan, and how can this be avoided?

3. An 80-year-old widow, Mrs Wong, who lives with her daughter, comes to your office for the first time with multiple chronic medical problems. Currently her chief complaints are dizziness, unsteady gait, burning sensation in the stomach, decreased appetite, increased frequency of urination, dry mouth, and insomnia. The daughter is eager for another medical opinion and would like a review of her old records before further testing is undertaken. The family has agreed to obtain her medical records from other physicians for review before her clinic appointment. The daughter also believes that the patient would be better off if she took fewer medications.

   Her sketchy old records revealed history of a minor stroke, hysterectomy, appendectomy, haemorrhoidectomy, cardiac dysrhythmia, irritable bowel syndrome, depression, hypertension, recurrent urinary tract infections, anaemia, osteoarthritis, chronic right upper quadrant pain, and headaches.

   Her 'brown bag' test revealed medications consisting of sucralfate 1 g tds, cimetidine 300 mg bd, phenytoin 300 mg nocte, enteric-coated aspirin 100 mg daily, atenolol 100 mg daily, digoxin 125 mcg daily, alprazolam 0.5 mg nocte, amitriptyline 50 mg nocte, naproxen 250 mg tds, oxybutynin 5 mg bd, frusemide 40 mg om, slow K 600 mg om, and tramadol 1 tablet bd prn for pain.

   Questions for discussion:
   (a) Could Mrs Wong's presenting complaints be secondary to her drugs?
   (b) What potential drug-drug interactions can occur?
   (c) Do you have any suggestions to modify her drug regimen?

Journal Reading

1. Rochon PA, Gurwitz JH. Optimising drug treatment for elderly people: the prescribing cascade. BMJ 1997;315:1096-9.
2. Chutka DS, Takahashi PY, Hoel RW. Inappropriate medications for elderly patients. Mayo Clin Proc 2004;79:122-39.
3. Spinewine A, Schmader KE, Barber N, et al. Appropriate prescribing in elderly people: how well can it be measured and optimised? Lancet 2007;370:173-84.
4. Mallet L, Spinewine A, Huang A. The challenge of managing drug interactions in elderly people. Lancet 2007;370:185-91.

   Questions for discussion:
   (a) What are the common causes of inappropriate prescribing?
   (b) What measures can be done to prevent drug interactions in elderly people?

5. Kong TK. Iatrogenesis — still a geriatric giant. J Hong Kong Geriatr Soc 1997;8:3-5.

   Question for discussion:
   (a) Why is iatrogenesis regarded as a geriatric giant and how is iatrogenesis related to other geriatric giants?

6. Ferner RE. Is concordance the primrose path to health? BMJ 2003;327:821-2.
7. McGraw C, Drennan V. Older people and medication management: from compliance to concordance. Rev Clin Gerontol 2004;14:145-53.

   Questions for discussion:
   (a) What is the difference between compliance and concordance?
   (b) Discuss some of the factors that influence the ability of elderly people to take medication as prescribed?

CHAPTER 16L

PSYCHOSOCIAL ASPECTS OF GERIATRIC CARE

Ada Chan Yuk-sim MUI, Elsa Shing-tak LEE

Multiple Choice Questions

1. Older persons have the right to:
   (a) lie about their medical history and ignore doctor's advice.
   (b) control their adult children.
   (c) make decisions about their care options freely rather than by coercion.
   (d) make fun of their friends.
   (e) make people who care for them miserable.

2. Elder abuse is a serious societal problem because it can lead to harm or death. What are possible signs of elder abuse?
   (a) Bruises or injuries in various stages of healing
   (b) The elder attempts to hide such injuries
   (c) Elder's emotional state changes from calm to fearful when others are around
   (d) There is evidence of physical injury that may have been inflicted by other people
   (e) All of the above

Case Scenarios

1. Mrs Hou, aged 89 years, underwent total hip replacement surgery and was advised to attend a 2- to 3-week post-hospital rehabilitation programme in a rehabilitation facility. However, she refused to participate and insisted on returning to her home even though she had no family caregivers to support her. Mrs Hou had a strong fear of long-term care facilities, her perception being that if she entered such a facility, she would never leave. Home care services were then arranged for her by the social worker. Unfortunately, she fell and broke her wrist at home several months later.

   Questions for discussion:
   (a) As a doctor caring for Mrs Hou, what professional attitude would you adopt towards her decision to go home?
   (b) How do you educate or encourage Mrs Hou about her need for post-hospital rehabilitation in a rehabilitation facility? Do you think her fall risk is greater at home or in a facility?
   (c) What do you think might be Mrs Hou's feeling towards her falling and fracturing her wrist?
   (d) How do you feel when Mrs Hou is readmitted to the hospital for her broken wrist?

2. Mr Chan, a 75-year-old man with chronic obstructive airway disease, was readmitted to hospital because of the sudden death of his caregiving wife. He was married for 45 years and has two adult children. His wife's sudden death of a heart attack in her sleep last month devastated him. In the first 2 weeks after her death, he was so traumatised that he was unable to speak / sleep / eat or breathe normally. He felt very guilty because he had been asleep when she died. In terms of his long-term care plan, he is very afraid that his adult children will place him in a nursing home, which he perceives as a lifelong imprisonment without parole. He does not want to move in with either of his adult children. He has limited social support and in losing his wife, he also lost his caregiver, friend, and lifelong emotional support. His adult children made a long-term care plan for him to go to a nursing home without his participation in the decision-making process. When Mr Chan learnt on the day of his discharge that he had to go to a private nursing home, he felt outrageously angry, frustrated, and helpless.

   Questions for discussion:
   (a) As a member of the healthcare team, how do you perceive Mr Chan's psychosocial and emotional losses (wife, caregiving support, ability to live at home, decision-making opportunity, sense of control)?
   (b) What do you think the adult children could do to support Mr Chan in the grieving process?
   (c) How can the social worker help to educate Mr Chan's adult children about long-term care planning?
   (d) If you were Mr Chan's adult child, how would you approach the long-term care planning process?

3. Mr Wong, a 65-year-old retired widower, was admitted from the emergency room to the hospital with severe angina. His wife died of breast cancer 6 months ago and he had expressed feelings of depression and anxiety since that time. He retired from his teaching job in a private high school right before she died. He had been his wife's caregiver for 1 year. He has only one daughter who is a lawyer and has her own private practice. His daughter visited him once a week and has noticed that her father has expressed feelings of 'fatigue' for about 6 months and he began skipping meals, spending most of his time at home doing nothing. Mr Wong had been struggling with passive suicidal ideation for a couple of months along with decreased appetite and sleep difficulties.

   Questions for discussion:
   (a) As a member of the healthcare team, how do you understand Mr Wong's life transitions in the past year (role changes from being a provider to a caregiver of his wife, from gainfully employed to a retiree, from being married to a widower)?
   (b) What is the psychological impact of these life transitions and losses on Mr Wong's emotional responses?
   (c) How can the social worker help to provide psychosocial support to Mr Wong in his grief and help him cope with his losses?
   (d) Psychiatric assessment and intervention is warranted. How does the healthcare team prepare Mr Wong to accept mental health services?

CHAPTER 17L

ETHICAL AND LEGAL ASPECTS OF CARE FOR ELDERS

Jacqueline Kwan-yuk YUEN

Multiple Choice Questions

1. All of the following must be present to determine whether a patient has the capacity to make a decision except:
   (a) patient is able to communicate a choice consistently.
   (b) cognitive testing indicates lack of cognitive impairment.
   (c) the decision cannot be influenced by depression.
   (d) patient can demonstrate reasoning when accepting or refusing proposed treatments.
   (e) patient's decision is voluntary and free of coercion.

2. Advance directives have limitations in clinical practice in which of the following way(s)?
   (a) Treatment preferences can be misapplied in clinical situations not specified in the advance directives.
   (b) Advance directives do not improve surrogate decision makers' knowledge of a patient's preferences.
   (c) Advance directives can become outdated as patients can change their wishes for care over time.
   (d) Both (a) and (c).
   (e) All of the above.

Journal Reading

Abadir PM, Finucane TE, McNabney MK. When doctors and daughters disagree: twenty-two days and two blinks of an eye. J Am Geriatr Soc 2011;59:2337-40.

Questions for discussion:

(a) If you were the physician caring for the patient in the accident and emergency department, would you intubate the patient? Does the patient's advance directive influence your decision? Why or why not?
(b) What are the ethical principles underlying the position of the medical providers and the patient's daughters?
(c) Who has the legal right to make decisions for the mentally incapacitated patient in this case?
(d) What should be the key elements of an advance care planning discussion? Who should be involved?

CHAPTER 18L

PALLIATIVE CARE AND PAIN MANAGEMENT

Raymond See-kit LO

Multiple Choice Questions

1. Which of the following about palliative care in elderly patients is correct?
   (a) Palliative care for elderly patients is a passive care option.
   (b) Geriatricians do not have a major role in the psychospiritual care of elderly patients.
   (c) Elderly people do not value or understand the issue of quality of life.
   (d) Palliative care should not be applied to elderly patients at early stages of an advanced incurable illness.
   (e) End-of-life care is a generic approach of palliative care at the terminal phase.

2. Which of the following regarding pain management of elderly patients is correct?
   (a) Loneliness is a potential component of total pain.
   (b) Constipation from opioids can be prevented.
   (c) Fentanyl is preferred to morphine in elderly patients with renal failure.
   (d) Antidepressants and anticonvulsants can be used together for neuropathic pain.
   (e) All of the above

Case Scenarios

1. An 80-year-old man with known dementia was admitted to hospital with haematuria. Subsequent workup showed cancer of the prostate with multiple spinal metastases. The family opted for conservative management. The patient complained of increasing back pain in the lower lumbar area radiating to the right leg. The pain did not respond to maximum doses of tramadol. Further, the patient had increasing weakness in both legs, with numbness and paraesthesia more in sacral area.

   Questions for discussion:
   (a) Outline the key points in the history taking and physical examination that will point to the likely cause of pain and the differential diagnosis. Discuss your investigation and management plan to treat the pain.
   (b) Discuss the potential causes for the weakness in the legs and sensory symptoms in the sacral area, and the management approach that will enhance the patient's quality of life.

2. A 75-year-old lady with end-stage renal failure was admitted to hospital with 'decreased general condition'. She had symptoms of loss of appetite, nausea at the sight of food, and complained of increasing lethargy and fatigue. During the hospital stay, she became increasingly withdrawn and complained of non-specific pain all over the body, not relieved by paracetamol. The nurse also commented that her family had mentioned to the patient recently that she might need placement in a care home on discharge. She expressed the wish to die.

   Questions for discussion:
   (a) How you would assess her pain and the symptoms she is suffering?
   (b) Elaborate the factors that might have led to her present psychosocial status and wish to die.
   (c) Comment on the key issues that you would consider in your decision for further treatment or interventions.

Journal Reading

1. AGS Panel on Persistent Pain in Older Persons. The management of persistent pain in older persons. J Am Geriatr Soc 2002;50(6 Suppl):S205-24.
2. American Geriatrics Society Panel on Pharmacological Management of Persistent Pain in Older Persons. Pharmacological management of persistent pain in older persons. J Am Geriatr Soc 2009;57:1331-46.

   Question for discussion:
   (a) Discuss the key points in history taking, physical examination of an elder with pain, and the available drug therapy and non-pharmacological approaches.

CHAPTER 19L

END-OF-LIFE CARE

Felix Hon-wai CHAN, May Wing-han TANG, Jenny Shun-wah LEE

Multiple Choice Questions

1. Which of the following statements is incorrect?
   (a) The expectation of life for males increased from 72.3 years in 1981 to 80.3 years in 2011 while that for females increased from 78.5 years to 86.7 years.
   (b) In 2011, the top five killers were malignant neoplasms, pneumonia, heart disease, cerebrovascular disease, chronic lower respiratory disease, and kidney disease.
   (c) In September 2013, 8% of Hong Kong elders were institutionalised.
   (d) End-of-life (EOL) care mainly focuses on elders with advanced malignancy.
   (e) Advance care planning is important for elders, especially for those with life-limiting chronic illness.

2. Which one of the following statements is incorrect?
   (a) In Hong Kong, an advance directive of an elder will become effective when the patient is in a persistent vegetative state, an irreversible coma, or is terminally ill.
   (b) An advance care plan (ACP) is a set of written instructions that informs healthcare providers of the type of care a person wants when he / she is seriously ill or dying.
   (c) An ACP, once made, should not be changed even when there is any change in the patient's condition or performance status.
   (d) Some common decisions that should be drawn up in an ACP relate to cardiopulmonary resuscitation, mechanical ventilation, and tube feeding.
   (e) Up to 30% of residents in the residential care home for the elderly (RCHE) would prefer to receiving EOL care in a RCHE.

Journal Reading

1. Ho AH, Luk JK, Chan FH, et al. Dignified palliative long-term care: An interpretive systemic framework of end-of-life integrated care pathway for terminally ill Chinese older adults. Am J Hosp Palliat Care 2016;33:439-47.

   Question for discussion:
   (a) What are the current barriers to 'dying-in-place' in Hong Kong, both in the community and residential care setting ?

2. Chu LW, So JC, Wong LC, et al. Community end-of-life care among Chinese older adults living in nursing homes. Geriatr Gerontol Int 2014;14:273-84.

   Question for discussion:
   (b) If you are planning an end-of-life (EOL) care programme in a residential care home for the elderly, discuss:
   - how you would recruit the right residents to receive EOL care
   - how you would evaluate the outcomes of this EOL programme

3. Hui E, Ma HM, Tang WH, et al. A new model for end-of-life care in nursing homes. J Am Med Dir Assoc 2014;15:287-9.

   Question for discussion:
   (c) Design a curriculum for EOL care for nursing staff working in a residential care home for the elderly.

CHAPTER 20L

FALLS

Tak-yeung CHAN, Francis Chun-keung MOK

Multiple Choice Questions

1. An 80-year-old woman comes to your office for regular follow-up. She reported a single fall in the last month while stepping on a high curb. She has a history of hypertension. Examination showed no postural hypotension, the gait was normal, and she took 10 seconds to complete the Timed Up and Go test. What would be your advice to prevent further falls?
   (a) Refer to falls clinic or geriatric day hospital for multidisciplinary and multifactorial risk factors assessment and interventions
   (b) Home hazard assessment
   (c) Vitamin D supplements
   (d) Provision of education material alone
   (e) Supervised group or home-based exercise like tai chi

2. An 85-year-old nursing home resident has fallen several times during transfer in the recent few months. She denies dizziness or syncope. She has a history of hypertension, diabetes, old stroke, dementia, and depression. There was no postural hypotension and the blood glucose control was stable. Which of the following medications is most likely related to her falls?
   (a) Hydrochlorothiazide
   (b) Amlodipine
   (c) Aspirin
   (d) Sertraline
   (e) Metformin

CHAPTER 21L

DIZZINESS AND SYNCOPE

Chi-fai KO, Pan YEUNG

Case Scenario

1. Mr Leung, a 66-year-old businessman, is very active and frequently travels to mainland China. He has a 5-year history of repeated syncope that occurs only when he turns his head to his right side suddenly, for example, when he wants to greet a friend who calls from behind. He has no syncope while shaving or putting on a tight neck collar. He has no dizziness in between the episodes. There are no other precipitating factors nor can a prodrome be identified. He has no neck pain. He enjoys good past health and is prescribed no regular medication. Clinical examination is normal with absence of neck bruit or orthostatic hypotension. His cardiovascular and neurologic systems are unremarkable. Electrocardiogram shows no arrhythmic or ischaemic changes. He has consulted a medical doctor in mainland China, and computed tomographic (CT) brain revealed multiple lacunar infarcts.

   Questions for discussion:
   (a) Comment on whether the CT result can explain the clinical picture.
   (b) Discuss the differential diagnosis and appropriate investigations.

Case Commentary

1. Madam Leung, a 73-year-old housewife, complains of a 4-month history of posture-related dizziness. The dizziness mainly comes when she is in an erect position and goes when she lies down. She has had mild knee pain for many years and claims to have good eyesight. She denies vertigo, syncope, or hypoglycaemic symptoms. She has a history of hypertension, diabetes, osteoarthritis of both knees, and a non-toxic goitre. Her medications are: gliclazide 80 mg twice daily, and metformin 250 mg, nifedipine 10 mg, and methyldopa 250 mg 3 times a day each. She lives with her son, walks with a stick, and can manage her activities of daily living independently. Clinical examination reveals a healthy elderly lady with regular pulse at 77 beats/min, supine blood pressure of 164/85 mm Hg, and erect blood pressures of 144/80 mm Hg and 150/79 mm Hg at 1 and 3 minutes, respectively. She has moderately severe osteoarthritis of both knees with mild wasting of quadriceps muscle. Cardiac and neurologic examination is unremarkable and electrocardiogram is normal.

   Questions for discussion:
   (a) Discuss the potential factors for her dizziness.
   (b) How would you manage her problem?

   Nifedipine is gradually tailed off. At subsequent follow-up, her supine blood pressure is 187/88 mm Hg with no significant orthostatic drop, but she still complains of postural dizziness without improvement.

   Question for discussion:
   (c) How would you proceed further?

Clinical history is re-clarified with her. She admits that dizziness to her means a sense of imbalance that occurs whenever she tries to stand up or walk and can be relieved by lying down. Although she claims to have good eyesight, visual acuity as checked by Snellen chart shows visual impairment: right 20/100, left 20/100, and after pinhole: right 20/70, left 20/30.

Questions for discussion:
(d) What is the likely cause of her dizziness?
(e) How would you manage her problem?

Journal Reading

1. Wieling W, Thijs RD, van Dijk N, Wilde AA, Benditt DG, van Dijk JG. Symptoms and signs of syncope: a review of the link between physiology and clinical clues. Brain 2009;132:2630-42.
2. Parry SW, Reeve P, Lawson J, et al. The Newcastle protocols 2008: an update on head-up tilt table testing and the management of vasovagal syncope and related disorders. Heart 2009;95:416-20.
3. Task Force for the Diagnosis and Management of Syncope; European Society of Cardiology (ESC); European Heart Rhythm Association (EHRA); Heart Failure Association (HFA); Heart Rhythm Society (HRS), Moya A, Sutton R, Ammirati F, et al. Guidelines for the diagnosis and management of syncope (version 2009). Eur Heart J 2009;30:2631-71.
4. Soteriades ES, Evans JC, Larson MG, et al. Incidence and prognosis of syncope. N Engl J Med 2002;347:878-85.

Multiple Choice Questions

1. Which of the following statements about syncope is false?
   (a) Incidence increases with ageing.
   (b) Reflex syncope usually carries a benign prognosis.
   (c) Around one-fifth of patients will have recurrence.
   (d) Nearly all patients will seek medical advice.
   (e) Incidence increases in patients with underlying cardiovascular disease.

2. Which of the following is an effective treatment for vasovagal syncope?
   (a) Paroxetine
   (b) Midodrine
   (c) Disopyramide
   (d) Metoprolol
   (e) Fludrocortisone

CHAPTER 22L

URINARY INCONTINENCE

Teresa Kim-kam YU, Bing-chung TONG, Edward Man-fuk LEUNG

Multiple Choice Questions

1. Which of the following is not a transient cause of urinary incontinence in elderly people?
   (a) Urinary tract infection
   (b) Severe constipation
   (c) Acute chest infection with confusion
   (d) Atrophic vaginitis
   (e) Hypercalcaemia

2. Which of the following does not have a place in the management of urge incontinence with detrusor overactivity?
   (a) Bladder training
   (b) Use of oxybutynin (Ditropan)
   (c) Use of distigmine (Ubretid)
   (d) Avoidance of caffeinated beverages
   (e) Pelvic floor exercises

Case Scenario

1. A 72-year-old woman complains of frequency of urine and incontinence for 2 years. Her urinary frequency is about every 2 hours, nocturia about 4 times. She sometimes leaks urine on her way to the bathroom. On further questioning, she also reveals urine loss when coughing or sneezing.

   She has had four uncomplicated vaginal deliveries. She drinks three cups of coffee daily. She has hypertension and currently takes Natrilix SR 1.5 mg daily. She does not have dysuria, haematuria, or constipation, and any history of surgery or relevant family history.

   On examination she is alert and afebrile. Her blood pressure is 128/70 mm Hg and pulse rate is 68 beats/min. Her body mass index is 27 kg/m^2. Her Mini-Mental State Examination score is 28/30. There is urine leakage seen with coughing. Physical examination is otherwise unremarkable. Her gait is normal and steady. Her post-void residual urine volume by bladder scanner is 50 ml. Blood renal function tests, and glucose and calcium levels are normal as is urinalysis.

   Questions for discussion:
   (a) Are there possible transient causes of urinary incontinence? If yes, please list them.
   (b) How would you manage her possible transient causes of urinary incontinence?
   (c) This woman followed your suggestions in question b, but she still reports frequency of urine, leakage of urine on her way to bathroom, and urine loss when coughing or sneezing. What specific type(s) of urinary incontinence is she experiencing?
   (d) How would you manage this patient?

CHAPTER 23L

CONSTIPATION AND FAECAL INCONTINENCE

Bing-chung TONG

Multiple Choice Questions

1. Which of the following is not included in the Rome III criteria for definition of functional constipation?
   (a) Requirement of straining to pass stool
   (b) Frequency of passing stool less than 7 times a week
   (c) Passage of lumpy or hard stool
   (d) Sensation of incomplete evacuation
   (e) Sensation of anorectal obstruction / blockage

2. Which of the following is / are cause(s) of constipation?
   (a) Hypothyroidism
   (b) Hypercalcaemia
   (c) Colonic cancer
   (d) Morphine
   (e) All of the above

Case Scenarios

1. Mr Lee, a 72-year-old man comes to your office requesting a laxative. He has good past health, is prescribed no long-term medication and has previously had a daily bowel motion. He has noticed a reduction in frequency of bowel motions in the last 6 months and currently passes a bowel motion every 3 or 4 days. He sometimes needs to take extra fruits (like prune or banana), milk, or an over-the-counter laxative to facilitate bowel motion. The bowel motions consist mainly of a small amount of hard stool followed by a large amount of loose stool, to the extent that he might need 2-3 bowel motions in 1 day in order to clear the bowel. Sometimes there is mucus in the stool. He has had piles with occasional rectal bleeding from a young age. The amount of rectal bleeding appears to have slightly increased in recent months, which he has attributed to his constipation ("being wet and hot" in traditional Chinese medicine terminology). He has malaise, poor appetite, and weight loss of 5 pounds over the past 6 months, which he again attributes to his constipation, "the inability to clear the toxin from his body". He requests some medication to regulate his bowel motions.

   Questions for discussion:
   (a) What particular physical signs during physical examination should be looked for?
   (b) Are any laboratory investigations required?
   (c) What is the most appropriate management?

2. Madam Wong is a 76-year-old lady who is chair-bound following a stroke 4 years ago. She was discharged from hospital 3 days ago after a week-long admission for a chest infection that was treated with antibiotics. You are requested by the nursing staff of the care home to see her because of diarrhoea and faecal incontinence ever since her hospital discharge. The diarrhoea is described as frequent soiling of napkins with a small amount of watery stool (staining small part of the napkins) each time the napkin is changed. There is no blood but a small amount of mucus in the stool. The patient was constipated and previously required lactulose and sometimes senna to maintain bowel motion 3 times a day. Before hospitalisation the patient was able to identify the need to defecate. The laxatives have been withheld because of diarrhoea. She now has poor appetite and complains of vague abdominal pain. She is not febrile and is not toxic.

   Questions for discussion:
   (a) What is the most likely diagnosis?
   (b) What finding on physical examination is important in establishing the diagnosis? What other investigations may be needed?
   (c) What will be your management?
   (d) What complications can arise from this condition?

3. Mr Ho, a 72-year-old man, has had diabetes mellitus for more than 10 years and is followed up at a specialist outpatient clinic at a public hospital. His diabetic control has recently been poor and he has been taking multiple oral hypoglycaemic agents. He refuses insulin injections. He comes to your office with recent onset of faecal incontinence for 2-3 months. He used to pass loose stool 2-3 times a day but the frequency has increased to 4-5 times recently. Each bowel motion consists of a large amount of loose and sometimes watery stool. He has occasional urge incontinence of stool 2-3 times a week. He also has a lot of flatus and sometimes stool passes out together with the passage of flatus.

   Questions for discussion:
   (a) What are the possible mechanisms for faecal incontinence in a diabetic patient?
   (b) What has been the most likely precipitating cause for Mr Ho's faecal incontinence in recent months? What part of his history should be reviewed in detail?
   (c) What is your suggested management?

CHAPTER 24L

DEMENTIA AND DELIRIUM

Daniel Ka-lok YUK, David Lok-kwan DAI

Audit

1. Review the case notes of 10 elderly patients under your care, and comment on the following:
   (a) Was a memory complaint documented in the medical notes?
   (b) If a decline in memory was evident, was Mini-Mental State Examination (MMSE) documented?
   (c) If MMSE suggested cognitive impairment, were the 6 D's (dementia, delirium, depression, dysphasia, drugs, deafness) reviewed?
   (d) Were activities of daily living (ADLs) and instrumental ADLs documented?
   (e) Was the supportive network documented?
   (f) Was caregiver stress documented?
   (g) Was anti-dementia therapy initiated and the progress documented?

Case Scenarios

1. Madam Leung, an 85-year-old woman was admitted via the accident and emergency department with a 1-month history of visual hallucinations. She had a history of left hip fracture with internal fixation, deep venous thrombosis and pulmonary embolism in 2001; hypertension, atrial fibrillation, and congestive heart failure. She was not a drinker or a smoker. She lived with her husband and was cared for at home by a maid.

   On admission, information from the patient and her husband revealed that for a month, she had been seeing persons dancing in her home. The patient believed them to be evil spirits. She also saw her husband's face turn red and purple and believed that thieves had broken into the house and stolen things. Her symptoms were worse at night and she woke up at 3-4 am. A few days before admission, she saw the air-conditioner moving up and down and she attempted to stop it from falling with her stick. She reported a cough for 10 days but was afebrile. She was generally independent in her activities of daily living.

   Her medications were atenolol, aspirin, furosemide, slow K, lisinopril, and amlodipine. Physical examination revealed good general condition, blood pressure 150/80 mm Hg, pulse 80 beats/min in atrial fibrillation, clear chest, and normal abdomen. Central nervous system examination revealed no focal signs, and her Mini-Mental State Examination score was 2-3-3-1-1-5 (Figure 24L.1).

MMSE test items	Score
Orientation	
Time	2
Place	3
Registration	3
Attention and calculation	1
Recall	1
Language	5
Copy intersecting pentagons	0



Total score	15/30

Figure 24L.1 Mini-Mental State Examination (MMSE) score for Madam Leung

Results of investigations were as follows:

- Chest X-ray: cardiomegaly
- Plain computed tomographic brain: moderate periventricular hypodensities, extensive vascular calcifications over circle of Willis
- Haemoglobin 10.9 g/dL (hypochromic, microcytic), platelet count 216 x 10^9 /L, white cell count 4.6 x 10^9 /L
- Renal function: sodium 136 mmol/L, potassium 3.7 mmol/L, urea 6.1 mmol/L, creatinine 92 μmol/L
- Liver function: normal
- Calcium 2.34 mmol/L, phosphate 1.33 mmol/L
- Serum B_{12} 183 pmol/L, serum folate 21.5 nmol/L

She was prescribed risperidone 0.5 mg at night by a psychiatrist and was physically restrained.

Multiple Choice Question:

1. What is the most likely diagnosis for her cognitive symptoms?
   (a) Alzheimer's disease
   (b) Vascular dementia
   (c) Mixed dementia
   (d) Vitamin B_{12} deficiency–related cognitive decline
   (e) Psychotic mood disorder

   Follow-up Questions:
   (a) How would the comorbidities affect the diagnosis and management of this patient?
   (b) What is the relationship between vitamin B_{12} and cognitive decline?
   (c) What are the side-effects of neuroleptics? What precautions would you take and how would you advise her family members?
   (d) What community support services would you suggest?

2. An 82-year-old lady was admitted because of decreasing general condition and mobility for 2 weeks. She was noted by her son to have an insidious onset of cognitive deterioration and had been seeing ghosts and children for 2 years prior to admission. She was also noted to be walking slowly with a stooped posture and rigidity. Her ability to manage activities of daily living had declined markedly and she could only manage up to toileting. She became chair- and bed-bound on admission.

Background history revealed multiple medical problems including hypertension, ischaemic heart disease, an infrarenal abdominal aortic aneurysm, and chronic renal impairment. She had a history of aspirin-induced gastric ulcer with *Helicobacter pylori* eradication therapy given, gallstones with chronic cholecystitis requiring endoscopic retrograde cholangiopancreatography, and common bile duct stone extraction and papillotomy. She was an ex-smoker and non-drinker. She lived with her son's family.

Computed tomographic brain was normal apart from age-related atrophic changes. On examination, she was weak, tired looking, and disoriented. Examination of the chest, cardiovascular system, and abdomen were normal. She had a resting tremor. Her power was grade 3+/5 generally with exaggerated reflexes and downgoing plantars and cerebellar signs were absent.

Prior to this admission, she had been given donepezil for 6 months and risperidone for 2 weeks by a private psychiatrist due to complaints of seeing animals at home. Her medications included simvastatin, losartan, metoprolol, amlodipine, isosorbide dinitrate, indapamide, risperidone, and donepezil.

For the latest admission, she was treated for chest and urinary tract infection and for worsening of extrapyramidal signs. She subsequently developed pain over both calves. Doppler studies confirmed deep venous thrombosis. She was anticoagulated but eventually died of acute coronary syndrome.

Multiple Choice Question:

2. Which diagnosis is the most likely to be contributing to her cognitive decline?
   (a) Idiopathic Parkinson's disease
   (b) Parkinson's disease dementia
   (c) Vascular dementia
   (d) Alzheimer's disease
   (e) Dementia with Lewy bodies

   Follow-up Questions:
   (a) What might have precipitated the deterioration in mobility and subsequent general condition?
   (b) What other symptoms should be solicited when making the diagnosis?
   (c) What is the prognosis of this condition?

CHAPTER 25L

DEPRESSION

Cheong-fai CHAN, Eric Fuk-chi CHEUNG

Multiple Choice Questions

1. Which of the following statements is true?
   (a) Subsyndromal depressive symptoms are rare in elderly people.
   (b) All elders with subsyndromal depressive symptoms should be treated with antidepressants.
   (c) The prevalence of depression in elderly people is highest in institutional settings.
   (d) Depression has little impact on physical functioning, morbidity, and mortality in elders.
   (e) Presence of depressed mood is a prerequisite for the diagnosis of depression in elderly people.

2. Which of the following is a known risk factor for elderly depression?
   (a) Male sex
   (b) Married
   (c) Low educational attainment
   (d) History of schizophrenia
   (e) Multiple disabling physical illnesses

3. Which of the following about presentation of depression in elderly people is true?
   (a) Presence of disproportionate or unexplained somatic symptoms is uncommon.
   (b) Depressed elders rarely present with cognitive impairment.
   (c) It is uncommon for depressed elders to experience anxiety symptoms.
   (d) Depressed elders tend to minimise feeling of sadness.
   (e) Accentuation of premorbid personality trait is rarely seen in depression in elderly people.

4. Which of the following about assessment and treatment of depression in elderly people is true?
   (a) Seemingly trivial self-harm behaviour should be taken seriously.
   (b) Confirmatory laboratory test is available for diagnosis of elderly depression.
   (c) Newer antidepressants are superior to tricyclic antidepressants in terms of efficacy.
   (d) Psychological intervention is only effective for depression of mild severity in elderly people.
   (e) Antidepressant should be continued indefinitely after recovery.

Case Scenarios

1. A 70-year-old man presenting with a 6-month history of depressed mood, loss of interest, crying spells, insomnia, and loss of appetite has been diagnosed by you to have depression. He was started on citalopram 10 mg once daily 2 weeks ago. On follow-up, he complained that the medication was not helpful in relieving his symptoms, and his sleep had actually worsened.

   Question for discussion:
   (a) How would you approach this problem? What practical advice would you give him?

2. A 69-year-old woman presents to you with a complaint of absent-mindedness and nervousness for 3 months after she moved to live with her son's family. On further enquiry, she discloses escalating conflict with daughter-in-law, who is a new immigrant, and was worried about her husband, who had lately moved to live in an old age home. At times, she also has thoughts of being better-off dead. She performs poorly on formal cognitive function assessment, with apparent irritability and frequent "don't know" answers.

   Question for discussion:
   (a) How would you manage this patient?

   The patient's daughter accompanies her at follow-up consultation and wants to know if her mother has dementia and asks what she could do to help her mother.

   Question for discussion:
   (b) How would you respond to her enquiries? What further advice would you give to facilitate the management of this lady?

3. A 75-year-old woman presents with a 1-month history of non-specific physical symptoms including dizziness, chest discomfort, muscle aches, and headache. She is known to have hypertension and hypothyroidism.

   Question for discussion:
   (a) How would you go about managing her problems?

   On subsequent follow-up, she reveals that she has been having other depressive symptoms. You put her on antidepressant and her symptoms resolve after a few months. She then asks if she could stop the antidepressant.

   Question for discussion:
   (b) What would you advise her?

Journal Reading

Das B, Greenspan M, Muralee S, Choe CJ, Tampi RR. Late-life depression: a review. Clin Geriatr 2007;15:35-44.

Read the above article and discuss the approaches for acute and long-term management of depression in elderly people presenting in primary care.

CHAPTER 26L

ANXIETY SYNDROME

Karen Hong-yun WAT, Amos Chuen-yih CHEUNG, Hoi-yin TANG, Edwin Chi-shing YU

Case Scenario

1. A 66-year-old woman complained of intense dizziness and fearfulness whenever she travelled on a bus. Such episodes had lasted for a year, and had extended to trips on trains and vans. She compensated for her disability by walking for an hour every day to get to the market. In the last month, she complained of shortness of breath, pounding heart, tremor, restlessness, and dizziness whenever she was in the market. She is now virtually housebound and is afraid she will go mad.

   Discuss on how you would manage this patient.

Case Commentary

1. Consider an elderly patient in your practice who presents with anxious mood, multiple somatic complaints, and doctor shopping behaviour.

   Discuss and comment on the possible differential diagnoses, and how you would further assess and manage the patient.

Multiple Choice Questions

1. Which of the following benzodiazepines has an Food and Drug Administration–approved indication for panic disorder?
   (a) Bromazepam
   (b) Alprazolam
   (c) Diazepam
   (d) Clonazepam
   (e) Midazolam

2. Which of the following is not a typical feature of post-traumatic stress disorder?
   (a) Recurrent, involuntary, and intrusive distressing memories of the traumatic event.
   (b) Persistent avoidance of stimuli associated with the trauma.
   (c) Feelings of detachment or estrangement from others.
   (d) Marked fear or anxiety about social situations in which the individual is exposed to possible scrutiny by others.
   (e) Irritable behaviour and angry outbursts typically expressed as verbal or physical aggression.

CHAPTER 27L

Sleep Disorders in Old Age

Jenny Shun-wah LEE, Karen Hong-yun WAT, Jones Chun-man CHAN, David Lok-kwan DAI

Case Scenario

A 70-year-old man complains of poor sleep at night and requests hypnotics. On further questioning, he reveals that, after his retirement 10 years ago he has been used to taking afternoon naps. His wife passed away a year ago, and he still cries whenever he thinks of her. He has recently had more dreams of his wife as it is approaching the anniversary of her death.

Question for discussion:
How would you assess and manage this patient?

Multiple Choice Questions

1. Which of the following may be useful for nocturnal polyuria syndrome?
   (a) Selective serotonin receptor inhibitor
   (b) Relief of constipation
   (c) Bright light therapy
   (d) Desmopressin
   (e) Iron supplement

2. Which of the following is not an essential feature of restless legs syndrome?
   (a) Relief by movement
   (b) Iron deficiency
   (c) Onset at rest
   (d) Urge to move legs
   (e) Symptoms worse at night or in evenings

Journal Reading

1. Vaz Fragoso CA, Gill TM. Sleep complaints in community-living older persons: a multifactorial geriatric syndrome. J Am Geriatr Soc 2007;55:1853-66.
2. Trenkwalder C, Paulus W. Restless legs syndrome: pathophysiology, clinical presentation and management. Nat Rev Neurol 2010;6:337-46.
3. Miller M. Nocturnal polyuria in older people: pathophysiology and clinical implications. J Am Geriatr Soc 2000;48:1321-9.

CHAPTER 28L

IMPAIRED VISION AND HEARING

Loar Ka-keung MO

Journal Reading

1. The daughter of a 70-year-old man with impaired hearing complains that her father is not using his hearing aid. Read the journal article on adult aural rehabilitation:
   Mackenzie IJ. Adult aural rehabilitation. Rev Clin Gerontol 1999;9:73-5.

   Question for discussion:
   Discuss your approach to the problem and how you would counsel them.

2. Appollonio I, Carabellese C, Frattola L, Trabucchi M. Effects of sensory aids on the quality of life and mortality of elderly people: a multivariate analysis. Age Ageing 1996;25:89-96.

   Question for discussion:
   Comment on how the quality of life and mortality of elderly people with sensory deprivation would be affected by the use of sensory aids.

Multiple Choice Questions

1. An 80-year old man presented to his family doctor complaining of gradual loss of vision over 3 years. Which of the following is the most likely cause of his vision loss?
   (a) Cataracts
   (b) Diabetic retinopathy
   (c) Open angle glaucoma
   (d) Closed angle glaucoma
   (e) Macular degeneration

2. Which of the following is not a normal ageing change in the ears?
   (a) Atrophy of the external auditory meatus
   (b) Increasing obstruction of the Eustachian tube
   (c) Atrophy of the cochlear hair cells
   (d) Loss of auditory neurons
   (e) None of the above

CHAPTER 29L

Impaired Immunity and Infections

Tak-kwan KONG

Multiple Choice Questions

1. Which of the following drug(s) increase(s) the risk of infections in old age?
   (a) Steroids
   (b) Proton pump inhibitors
   (c) Sedatives
   (d) Neuroleptics
   (e) All of the above

2. Which of the following about bacterial pneumonia in old age is true?
   (a) The absence of fever and cough excludes the diagnosis of pneumonia.
   (b) The absence of leucocytosis excludes the diagnosis of pneumonia.
   (c) Fall with a fractured hip can be a presentation.
   (d) Confusion indicates an infective focus in the brain.
   (e) A normal chest X-ray excludes the diagnosis of pneumonia.

3. Which of the following statement(s) regarding tuberculosis in Hong Kong is/are true?
   (a) The male sex is at a higher risk than the female sex.
   (b) Those living in residential care homes are at a higher risk than those living at home.
   (c) Elderly persons are at a higher risk than younger adults.
   (d) It is a common cause of fever of unknown origin in elderly people.
   (e) All of the above

4. Which of the following concerning body temperature in old age is true?
   (a) The definition of fever is the same for all ages.
   (b) Tympanic temperature measurement is no better than oral recording in detecting fever.
   (c) Fever implies an infectious illness.
   (d) Elderly persons tend to have a lower non-illness body temperature compared with younger adults.
   (e) The absolute temperature is more reliable than the temperature change in detecting fever response to infection.

Case Scenarios

1. An 81-year-old man was transferred for rehabilitation after hospitalisation for 1 week in an acute medical ward. He attended accident and emergency department (A&E) for the treatment of weakness and numbness over both lower limbs and pain over lower back and buttock since 2 months ago; difficulty in walking since 2 weeks ago; and inability to walk properly with a stick since 2 days ago.

   In the transfer summary, the principal diagnosis was:
   - lower limb weakness for investigation
   - other diagnoses were:
     - o static old right lung mass shadow on chest X-ray (lung mass with endobronchial biopsy 6 years ago reported as peripheral nerve sheath tumour, favour benign neurilemmoma, for conservative treatment)
     - o atrial fibrillation on warfarin
     - o heart failure, dilated cardiomyopathy with cardiac resynchronisation pacemaker with a defibrillator (implantable cardioverter defibrillator)
     - o chronic obstructive pulmonary disease

   Below are results of investigations done during the 1 week of acute hospitalisation.
   - Chest X-ray (Figure 29L.1): Pacemaker present. Soft tissue lesion in right upper zone (RUZ) noted in the chest X-ray performed 1 year 9 months ago showed no significant interval change. Fibrotic changes in RUZ and obliteration of right lung base and costophrenic angle remained similar.
   - X-ray of lumbosacral spine (Figure 29L.2): Lumbar lordosis is obliterated. Bony alignment is maintained. Degenerative changes are noted. Decrease in vertebral height is noted, especially in L5, suggestive of partial collapse. No definite pedicle erosion seen.

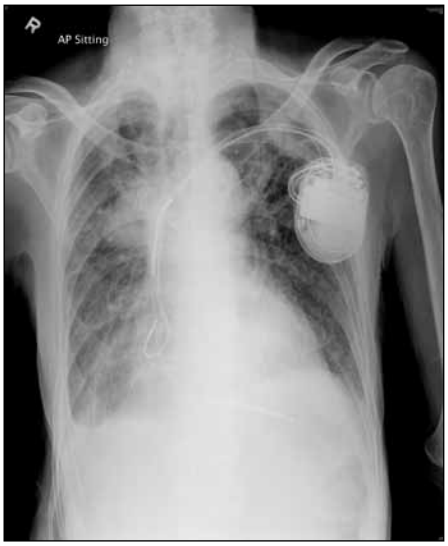


Figure 29L.1



Figure 29L.2

- X-ray of pelvis: No significant bony lesion seen.
- Computed tomography of the brain: No gross intracranial lesion
- Electrocardiogram: Atrial sensed ventricle paced rhythm
- International normalised ratio: 6.3, warfarin withheld
- Nerve conduction study: Normal motor and sensory study findings in both lower limbs
- Complete blood picture: Haemoglobin, 11.5 g/dL; mean corpuscular volume, 85.7 fL; mean corpuscular haemoglobin, 28.0 pg; total white blood cell count, 8.6 x 109/L (neutrophils, 6.5; lymphocyte, 0.8; monocytes, 1.1; oeosinophils, 0.2; basophils, 0)
- Biochemistry: Sodium, 129 mmol/L; potassium, 4 mmol/L; urea, 7.7 mmol/L; creatinine, 81 μmol/L; albumin, 30 g/L; globulin, 45 g/L; bilirubin, 7 μmol/L; alkaline phosphatase, 74 U/L; alanine aminotransferase, 34 U/L; calcium, 1.97 mmol/L; phosphate, 0.68 mmol/L; creatine phosphokinase, 115 U/L

During interdisciplinary clinical rounds, the patient complained of right hip pain, and the therapists reported that he required assistance for bed-to-chair transfer and for walking with a rollator; his ambulation was limited by his pain; the Barthel index was 64/100.

Questions for discussion:
(a) What targeted physical examination would you like to perform?
(b) What relevant information would you like to obtain from nursing observation?
(c) With the findings from answers to (a) and (b), what may be the cause of his impaired mobility, functional decline, and distress?
(d) What diagnostic investigation(s) would you order?

2. An 82-year-old woman was brought to your office by her neighbour with 1-week history of poor appetite, shortness of breath, and occasional stress incontinence without urgency or frequency. She was just discharged 2 weeks ago from the A&E after an overnight observation for backache after a fall. She was a childless widow living alone, and could perform household activities and self-care independently until the recent episode of fall, after which she had to depend on her neighbour for performing her daily tasks. Past health was good other than hysterectomy at the age of 35 years. Her body weight and height were 38 kg and 140 cm, respectively. Examination revealed an ear temperature of 37.7°C, blood pressure of 90/40 mm Hg, pulse of 100 beats/min, respiratory rate of 28 breaths/min, and a few crepitations over the lung bases during inspiration.

Questions for discussion:
(a) List some of the possible risk factors for infection in her case.
(b) What is the significance of the few crepitations heard over her lung bases during inspiration?
(c) What are the most likely causes of her poor appetite and shortness of breath and why?
(d) Her chest X-ray showed no significant consolidation. Would this be incompatible with her clinical picture and why?

3. An 83-year-old woman presented to your office with poor appetite, shortness of breath, night sweats, and weight loss of 10 kg in the past 6 months. She was a chronic smoker. She had a 1-year history of ankle oedema, progressive shortness of breath, on-and-off chest discomfort unrelated to exertion, as well as productive cough with whitish sputum. She had sought advice from multiple doctors, diagnosed with bronchitis and congestive heart failure, and treated with diuretics and anti-failure drugs, but she failed to show much improvement and became dependent on her family for performing her activities of daily living. A right-sided chest tapping done 9 months ago revealed transudative pleural effusion thought to be related to heart failure. On examination, she was afebrile, with body weight of 38.3 kg, height 160 cm, respiratory rate of 26 breaths/min, and apical rate of 100/min (regular). In addition, ankle and sacral oedema were present and jugular venous pulse was raised with clinical evidence of mitral and tricuspid regurgitation. There was stony dullness over the right side of her chest. Chest X-ray revealed haziness in lower zones of both lungs (right much more than left), a calcified lesion in the right apex, and bilateral upper lobe diversion.

   Questions for discussion:
   (a) Give two differential diagnoses.
   (b) What diagnostic procedure would you advise?

4. A 90-year-old woman presented to your office with backache of increasing intensity over 4 months since a fall during Chinese New Year. She presented to the A&E for a fall during Chinese New Year, was told that she had an osteoporotic spine, discharged with analgesics, and referred to an orthopaedic clinic. However, she was much distressed by the backache for the past 4 months, and could not sleep in the recent 2 months due to the pain. She had sought advice from multiple doctors and was told that her back problem was due to ageing and degeneration. She noticed increasing weakness in her legs in the past 1 week and had fallen a few times. Examination revealed tenderness over her mid-thoracic spine, and X-ray of her spine revealed collapse of a thoracic vertebral body.

   Questions for discussion:
   (a) What are the differential diagnoses?
   (b) What diagnostic investigations would you consider?

Journal Reading

1. Dai DL, Tang AW, Chan VK, Leung AC. A study on tuberculosis in elderly patients. J Hong Kong Geriatr Soc 1994;5:40-4.

2. Chan CH, Woo J, Or KK, Chan RC, Cheung W. The effect of age on the presentation of patients with tuberculosis. Tuber Lung Dis 1995;76:290-4.

3. Chan-Yeung M, Noertjojo K, Tan J, Chan SL, Tam CM. Tuberculosis in the elderly in Hong Kong. Int J Tuberc Lung Dis 2002;6:771-9.

   Question for discussion:
   (a) Tuberculosis is a common disease among elderly people. Read the above articles and discuss how the presentations of tuberculosis in old age may differ from those in younger age.

4. Bartlett JG, Perl TM. The new *Clostridium difficile* — what does it mean? N Engl J Med 2005;353:2503-5.

5. Ludlam H, Brown N, Sule O, Redpath C, Coni N, Owen G. An antibiotic policy associated with reduced risk of *Clostridium difficile*–associated diarrhoea. Age Ageing 1999;28:578-80.

6. Roberts H, Jones G. Antibiotic policies and *Clostridium difficile*–associated diarrhoea. Age Ageing 2000;29:369.

7. Gouliouris T, Forsyth DR, Brown NM. *Clostridium difficile*–associated diarrhoea (CDAD): new and contentious issues. Age Ageing 2009;38:497-500.

   Clostridium difficile, first described in 1978 as the cause of pseudomembranous colitis, is now recognised to be an important cause of nosocomial diarrhoea often associated with outbreaks. Read the above articles and answer the following:
   (a) What is the changing pattern of *C. difficile*–associated diarrhoea and why?
   (b) Why is this problem particularly relevant in elderly people?
   (c) What are the pros and cons of an isolation ward?
   (d) How you may contribute to reducing this problem?

8. Kong TK. Time to reflect in the era of SARS / SRS / CVP. The Hong Kong Geriatrics Society Newsletter 2003(May):1-2. Available from: http://www.hkgs.org/image/module/newsletters/HKGSNewsletter0305.pdf. Accessed 9 Sep 2017.

9. Kong TK, Dai DL, Leung MF, Au SY, Yung R, Chan MH. Severe acute respiratory syndrome (SARS) in elders. J Am Geriatr Soc 2003;51:1182-3.

10. Hong Kong Geriatrics Society. Position statement: severe acute respiratory syndrome (SARS) in elders. J Hong Kong Geriatr Soc 2004;12:37-42.

Question for discussion:
Elders were portrayed with a negative image during the severe acute respiratory syndrome (SARS) epidemic in 2003, and there had been much fear and concern that elders were silent spreaders of SARS. Read the above articles and comment on how an improved knowledge in geriatric medicine may allay such fears.

CHAPTER 30L

Nutrition Disorders in Older Adults

Tung-wai AU YEUNG, Bernard Ming-hei KONG

Case Scenario

1. A 72-year-old female presents to the clinic on a walking frame, complaining of weakness, lethargy, and poor appetite. Her husband states that she has lost 15 kg over the past 6 months. Her height and weight are 155 cm and 40 kg, respectively. She has a history of carcinoma of sigmoid stage 2 resected 6 months previously with no evidence of recurrence at present. Routine blood taking postoperatively reveals a blood glucose of 24 mmol/L. She suffers from asthma and is taking 5 mg prednisolone once a day.

   Her recent blood tests reveal serum albumin level of 28 g/L and serum cholesterol level of 3.9 mmol/L. She has poorly fitted dentures, oral candidiasis, and is dehydrated. She complains of difficulty in swallowing and chewing. Her daily intake is 500 calories and she has been advised to avoid all sugar, salt, and fat.

   Questions for discussion:
   (a) What is her nutritional status?
   (b) How would you manage her?
   (c) What risk factors would you have considered in this female patient?
   (d) What advice would you offer about her diet and daily intake?

2. An 80-year-old male Mr Wong attends with his wife, complaining of loss of appetite. His wife complains that he eats only a few mouthfuls of food and refuses to eat most of the time. He is getting thinner with muscle wasting and difficulty in walking. His medical history includes atrial fibrillation, hypertension, and transient ischaemic attacks. On further questioning, the wife complains that Mr Wong has a poor memory and never leaves the house without her. He has difficulty remembering faces and his temper is getting worse. Further questioning reveals that Mr Wong chokes with each meal, especially during intake of fluid. He stopped smoking 10 years ago and until recently was a heavy drinker.

   Examination reveals a wasted body; Mini-Mental State Examination score of 14/30; height 176 cm; weight 56 kg; serum albumin level of 26 g/L; and serum cholesterol level of 4.4 mmol/L.

   Questions for discussion:
   (a) What do you think is Mr Wong's problem?
   (b) How do you assess his swallowing difficulty?
   (c) What is the likely cause of his cognitive impairment?
   (d) Why is Mr Wong not eating?

CHAPTER 31L

URINARY TRACT INFECTIONS

Tiong-chee SIM, Edward Man-fuk LEUNG

Multiple Choice Questions

1. You sent off urine for culture from a nursing home resident. What is the correct interpretation of the result that shows a positive culture of a uropathogen?
   (a) $\geq 10^3$ Colony-forming unit per mL (CFU/mL) in a urine specimen collected from an in-and-out catheterisation is catheter-associated urinary tract infection (UTI).
   (b) $\geq 10^5$ CFU/mL in a urine specimen collected from an indwelling catheter of a resident with recurrent falls is catheter-associated UTI.
   (c) $\geq 10^3$ CFU/mL in a urine specimen collected from a freshly applied condom catheter of a male resident is catheter-associated UTI.
   (d) $\geq 10^5$ CFU/mL in a urine specimen that is freshly voided from a female resident who also has pyuria and cloudy urine can be asymptomatic bacteriuria.
   (e) $\geq 10^5$ CFU/mL in a urine specimen collected from an indwelling catheter of a febrile resident without pyuria is catheter-associated UTI.

2. Which of the following interpretation of the leukocyte esterase (LE) and nitrite dipstick tests is correct?
   (a) Negative LE and nitrite tests in a febrile female nursing home resident excludes UTI.
   (b) Negative LE and nitrite tests in a sexually active young woman with dysuria excludes UTI.
   (c) Positive LE but negative nitrite tests in a male patient excludes bacteriuria.
   (d) Positive LE and nitrite tests in an asymptomatic patient diagnoses UTI.
   (e) Negative LE and nitrite tests together reliably excludes the presence of bacteriuria.

Journal Reading

1. Scientific Committee on Infection Control, and Infection Control Branch, Centre for Health Protection, Department of Health. Recommendations on prevention of catheter-associated urinary tract infection, 2nd edition. Mar 2017. Available from: http://www.chp.gov.hk/files/pdf/recommendations_on_prevention_of_catheter-associated_urinary_tract_infection.pdf. Accessed 23 Sep 2017.

   Question for discussion:
   (a) What is the Hong Kong bundle to prevent catheter-associated urinary tract infection?

CHAPTER 32L

RESPIRATORY TRACT INFECTIONS

David Lok-kwan DAI, Bosco Hon-ming MA, Jones Chun-man CHAN

Multiple Choice Questions

1. Which one is not a predisposing or risk factor for pneumonia in elderly people?
   (a) Old cerebrovascular accident on aspirin and pantoprazole
   (b) Laryngectomy and radiotherapy for malignancy
   (c) Chronic obstructive pulmonary disease due to smoking for many years
   (d) Looser glycaemic control (haemoglobin A1c level >7%) in diabetic residents of long-term care facilities
   (e) Chronic schizophrenia on chlorpromazine

2. Which of the following statements is correct?
   (a) Dental hygiene is not associated with the risk of pneumonia.
   (b) *Legionella* infection is very rare in pneumonia among older people in Hong Kong.
   (c) Use of feeding tubes reduces the risk of aspiration pneumonia in patients with advanced dementia.
   (d) The tuberculin skin test is useful in diagnosing latent pulmonary tuberculosis among older people with chronic cough.
   (e) Outbreaks of influenza-like illness in nursing homes is more likely to be caused by bacteria than viruses.

Case Scenario

1. An 85-year-old lady, who was a nursing home resident, was hospitalised with pneumonia. She had a history of cerebrovascular accident, dementia, diabetes, and hypertension. Over the last week, the other three tenants were also admitted for pneumonia caused by influenza A virus. On admission, her clinical condition was stable with blood pressure 140/70 mm Hg and pulse rate 85 beats/min. The percutaneous capillary oxygen concentration was 98% while on oxygen supplementation at 2 l/min via nasal cannula. She was orientated to time, place, and person. Chest radiograph showed consolidation over the right lower zone. Blood tests revealed leukocytosis (12.4 x 10^9/l) with unremarkable haemoglobin level, and renal and liver function tests. Please comment on the empirical antimicrobial treatment.

CHAPTER 33L

GERIATRIC MUSCULOSKELETAL DISORDERS

Tak-kwan KONG

Multiple Choice Questions

1. Which of the following about osteoporosis in old age is true?
   (a) Spontaneous fracture of a long bone in a care home resident indicates elder abuse.
   (b) Normal serum calcium and phosphate levels make vitamin D deficiency unlikely in an elderly patient with fractured hip.
   (c) Two elders with the same T-score for bone mineral density of the hip will have a similar fracture risk of the hip.
   (d) Drug holiday from bisphosphonate use can be considered for elders at high risk of fractured hip.
   (e) Elderly men with vertebral fractures commonly have secondary causes for their osteoporosis.

2. Which of the following regarding gout in old age is false?
   (a) The prevalence of gout increases with age.
   (b) Women predominate with onset after the age of 80 years.
   (c) Arthritis that involves the fingers only and spares the feet makes the diagnosis of gout unlikely.
   (d) Polyarticular gout is more common than monoarticular gout.
   (e) It can present with fever and leukocytosis.

Case Scenarios

1. A 69-year-old woman presented to the accident and emergency department thrice for low back pain (LBP) within 1 year.
   - 11 July: LBP for 1 week, with difficulty in defaecation; treatment given was senokot.
   - 15 September: LBP for 10 days, constipated, tenderness over the lower back; X-ray showed collapse of L3 vertebra, osteoporotic bone; treatment given was Voltaren (diclofenac sodium) 75 mg intramuscular injection, Synflex (naproxen) 275 mg twice daily for 2 weeks; subsequently referred and seen by an orthopaedic surgeon who prescribed analgesics and physiotherapy with little improvement noted.
   - 26 October: LBP and sore throat, constipated, bilateral loin pain for 3 months; a kidney, ureter, and bladder examination revealed dilated colon down to the sigmoid colon, loaded faeces in the abdomen, and degenerative spine.

   Further questioning revealed that the onset of the LBP in early July occurred after sweeping the floor at home: on straightening her back from a bending posture, she heard a 'buck' noise and had the backache for the next 3 months, with associated numbness and weakness in all four limbs. She had been seen by a general practitioner for abdominal distension and pain for the past 1 month, with associated difficulty in micturition, frequency, and constipation. She had three sons, but she was living alone, and she had to climb three flights of stairs.

   Questions for discussion:
   (a) Suppose you saw this woman at the third episode of acute presentation (26 Oct), what would be your approach?
   (b) Give a list of problems she might have.
   (c) What disease(s) might she have and how would you manage?

2. A 77-year-old woman had been investigated and treated for low back pain (LBP) for the past 10 months.
   - March: Three months of LBP radiating to her left buttock, and disturbing her sleep; erythrocyte sedimentation rate (ESR) 50 mm/h; X-ray of the lumbar spine revealed degenerative changes over L3 and L4; symptomatically treated with Brufen and paracetamol.
   - June: Increasing LBP with tenderness elicited over L2 and L4; ESR 70 mm/h; X-ray of the lumbar spine and subsequent computed tomographic lumbar spine revealed infective spondylitis over L1/2; needle biopsy revealed no evidence of inflammation or neoplasia; treated as vertebral osteomyelitis.
   - October: Acute severe LBP with right leg weakness and inability to pass urine; midstream specimen of urine revealed white cells ++ but no growth.

   Questions for discussion:
   (a) Suppose you saw this woman in October, what would be your approach?
   (b) Give a list of problems she might have.
   (c) What disease(s) might she have and how would you manage?

Journal Reading

Osteoporosis

1. Alejandro P, Constantinescu F. A review of osteoporosis in the older adult. Clin Geriatr Med 2017;33:27-40.
2. Black DM, Rosen CJ. Clinical practice. Postmenopausal osteoporosis. N Engl J Med 2016;374:254-62.
3. Osteoporosis Society of Hong Kong (OSHK). 2013 OSHK guideline for clinical management of postmenopausal osteoporosis in Hong Kong. Hong Kong Med J 2013;19 Suppl 2:1S-40S.
4. Ducharme N. Male osteoporosis. Clin Geriatr Med 2010;26:301-9.
5. Baillie SP, Davison CE, Johnson FJ, Francis RM. Pathogenesis of vertebral crush fractures in men. Age Ageing 1992;21:139-41.

Questions for discussion:
(a) What are the current uncertainties and controversies in the management of postmenopausal osteoporosis?
(b) What are the common causes of secondary osteoporosis in men?

Gout

6. De Leonardis F, Govoni M, Colina M, Bruschi M, Trotta F. Elderly-onset gout: a review. Rheumatol Int 2007;28:1-6.
7. Stamp LK, Jordan S. The challenges of gout management in the elderly. Drugs Aging 2011;28:591-603.
8. Neogi T, Dalbeth N, Stamp L, et al. Renal dosing of allopurinol results in suboptimal gout care. Ann Rheum Dis 2017;76:e1.
9. Richette P, Doherty M, Pascual E, Bardin T. Response: renal dosing of allopurinol results in suboptimal gout care by T Neogi et al. Ann Rheum Dis 2017;76:e2.
10. Bardin T. Hyperuricemia starts at 360 micromoles (6 mg/dL). Joint Bone Spine 2015;82:141-3.

Questions for discussion:
(a) How do the presentations of gout in old age differ to those of younger adults?
(b) What precautions should be taken when treating gout in old age?
(c) In a patient with gout, what cut-off level of serum urate would be defined as normal uricaemia and why?

CHAPTER 34L

PARKINSONISM

Francis Chun-keung MOK

Case Scenario

1. A 65-year-old right-handed housewife presented with a 8-month history of stiffness in the right arm. She also noticed tremor of her hand for 1 month, usually when she sat on the sofa watching television in the evening. The tremor was worsened by stress and caused some difficulty in performing fine household activities such as sewing. Her handwriting had become illegible. She had good past medical health and no significant family history of illness. Examinations revealed an expressionless face, stiffness of both upper limbs and slowness in movement, a glabellar tap, and resting tremor of the right arm. She was mildly kyphotic and had loss of right arm swing during walking. Both upper limbs showed increased tone and a 'cogwheel' feeling during examination. Power and deep tendon reflexes were normal.

   Questions for discussion:
   (a) What is the diagnosis?
   (b) How will you manage her condition now and in the long term?
   (c) How would you talk to her about the prognosis?

Multiple Choice Questions

1. Which of the following about tremor is true?
   (a) Essential tremor always carries a good prognosis.
   (b) Postural tremor rules out Parkinson's disease (PD).
   (c) L-dopa treatment is not good for tremor of PD.
   (d) Anticholinergic drugs are good for the management of essential tremor.
   (e) Unilateral resting hand tremor is typical of early PD.

2. Which of the following is true for the drug treatment of PD in elderly people?
   (a) Full dose of L-dopa should be prescribed as fast as possible to improve patient's symptoms.
   (b) Dopamine agonists are better than L-dopa in treating PD in elderly people.
   (c) Non-motor symptoms of genuine PD are usually minimal.
   (d) Abrupt stopping of L-dopa in elderly PD patients should be avoided.
   (e) Anticholinergic drugs should be the first-line treatment for elderly PD patients as drooling of saliva could be improved.

CHAPTER 35L

STROKE

Bun SHENG, Joseph Shiu-kwong KWAN

Multiple Choice Questions

1. Which of the following improves survival in acute stroke?
   (a) Stroke thrombolysis
   (b) Stroke care unit
   (c) Anticoagulation
   (d) Aggressive control of blood pressure
   (e) Use of statins

2. Which of the following stroke aetiologies has the highest 1-year recurrence risk?
   (a) Cardioembolism
   (b) Dissection
   (c) Large artery disease
   (d) Small artery disease
   (e) Undetermined aetiology

3. Which of the following statement is true?
   (a) Aggressive blood pressure control should be started for acute haemorrhagic stroke.
   (b) Surgical removal of haematoma is the mainstay of treatment in haemorrhagic stroke.
   (c) Prophylactic anticonvulsants should be given to all patients suffering from haemorrhagic stroke.
   (d) Hypercholesterolaemia is a risk factor for haemorrhagic stroke.
   (e) Statins should be prescribed to all patients with haemorrhagic stroke.

Case Scenario

1. An 81-year-old man was admitted for acute stroke at 12:45. He was well in the morning. After returning from jogging, he took a short nap on his sofa at 10:30. Upon awakening after an hour at 11:30, he had aphasia and right hemiplegia. His National Institutes of Health Stroke Scale (NIHSS) score was 18. An urgent plain brain computed tomographic (CT) scan was performed (Figure 35L.1).

   Questions for discussion:
   (a) What is the symptom onset time in this patient?
   (b) How would you comment on his brain CT findings?
   (c) What are the predictors for haemorrhagic transformation after thrombolysis? What is the risk of haemorrhagic transformation in this particular patient? Would you recommend thrombolysis for him?

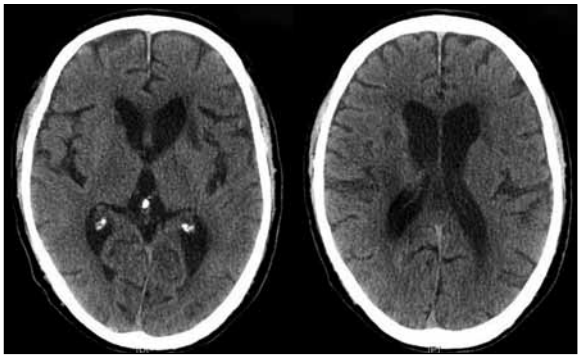


Figure 35L.1

CHAPTER 36L

ATRIAL FIBRILLATION

Bun SHENG, Tak-kwan KONG

Multiple Choice Questions

1. Which of the following statement is true?
   (a) Electrical and pharmacological cardioversion have been successful in reducing hospitalisation and death in atrial fibrillation.
   (b) Digoxin is effective in controlling the heart rate during high sympathetic tone, e.g. in sepsis or during exercise.
   (c) In order to achieve better symptom control in atrial fibrillation, the ventricular rate should be decreased to the physiological level at <80 beats/min.
   (d) Hypokalaemia potentiates the side-effects of digoxin.
   (e) Combination of digoxin and beta-blocker should be avoided.

2. Which of the following statement regarding anticoagulation is true?
   (a) All patients with atrial fibrillation should receive anticoagulation therapy.
   (b) Because of fewer drug-drug interaction, non–vitamin K antagonist oral anticoagulants could be safely used in patients with end-stage kidney disease.
   (c) Patients who receive warfarin should be educated about drug adherence, dietary management, and needs for regular blood sampling.
   (d) Patients on warfarin should not eat green vegetables.
   (e) Warfarin is contraindicated in patients with end-stage kidney disease.

Case Scenarios

1. A 75-year-old man was admitted for suspected acute stroke. He developed acute left arm pain and weakness after dinner. His electrocardiogram (ECG) revealed atrial fibrillation at a ventricular rate of 110 beats/min. The left arm strength was 4/5 on Medical Research Council scale. He did not have speech disturbance; his leg strength was normal. Plain computed tomography (CT) scan of the brain was performed (Figure 36L.1).



Figure 36L.1

Questions for discussion:
(a) What did the CT scan of the brain reveal? How would you correlate his symptoms with the CT findings?
(b) Is there any atypical clinical feature of stroke in this scan?

The next morning, his left arm pain and weakness persisted. Further examination revealed a cold left arm, and absence of left brachial and radial pulses.

(c) What is the most likely clinical diagnosis?
(d) Name a diagnostic investigation and the expected finding.
(e) What will be your immediate treatment?

2. A 79-year-old woman was referred for failing memory. This started gradually 2 years ago with decline in cognition, but rapid worsening was noted in the recent 2 months, causing distress to her 80-year-old husband. She could move around without any aids, but she was spatially disorientated. She had problems with locating her clothing. She had repetitive behaviour and was increasingly agitated when her husband corrected her mistakes. She was under the care of her family physician for hypertension, diabetes mellitus, hypercholesterolaemia, and ischaemic heart disease. She was neither a smoker nor drinker. Her medication included enalapril 10 mg daily, gliclazide (Diamicron) 80 mg twice daily, simvastatin (Zocor) 20 mg at night, aspirin 80 mg daily, and famotidine 20 mg twice daily.

   Her body weight was 43 kg, body mass index (BMI) 21 kg/m2, blood pressure 135/85 mm Hg, and pulse 72/min, irregularly irregular. Examination revealed coherent speech, left hemianopia, normal limb power and gait, and impairment in executive functions, new learning, and visual organisation.

   Her ECG revealed atrial fibrillation with a ventricular rate of 75/min. Further investigations revealed the following: haemoglobin, 12 g/dL; serum vitamin B12, 350 pmol/L; serum folate, 20 pmol/L; serum thyroid-stimulating hormone, 1.18 mIU/L; serum cholesterol, 5.4 mmol/L; serum triglycerides, 1.08 mmol/L; serum high-density lipoprotein cholesterol, 1.77 mmol/L; serum low-density lipoprotein cholesterol, 3.14 mmol/L; plasma fasting glucose, 7.6 mmol/L; serum sodium, 141 mmol/L; serum potassium 3.6 mmol/L; serum creatinine, 139 μmol/L; total serum protein, 68 g/L; serum albumin, 36 g/L; serum alkaline phosphatase, 67 U/L; serum alanine aminotransferase, 6 U/L.

   CT scan of the brain was reported as "hypodensities over bifrontal periventricular regions and right parieto-occipital region, suggestive of infarction."

   Questions for discussion:
   (a) What are the modifiable risk factors of dementia in this patient?
   (b) What are her risk factors for atrial fibrillation?
   (c) Discuss the factors that affect your decision on starting her on anticoagulation treatment.

Journal Reading

1. Lubitz SA, Bauer KA, Benjamin EJ, et al. Stroke prevention in atrial fibrillation in older adults: existing knowledge gaps and areas for innovation: a summary of an American Federation for Aging research seminar. J Am Geriatr Soc 2013;61:1798-803.
2. Stöllberger C, Finsterer J. Concerns about the use of new oral anticoagulants for stroke prevention in elderly patients with atrial fibrillation. Drugs Aging 2013;30:949-58.

Questions for discussion:
(a) What are the challenges of managing atrial fibrillation in an elderly individual?
(b) Discuss the advantages and disadvantages of using warfarin and novel oral anticoagulants for preventing stroke in elderly patients with atrial fibrillation.

CHAPTER 37L

CARDIOVASCULAR DISORDERS

James Ka-hay LUK

Case Scenarios

Diagnosis of acute chest pain in elderly patients — is it due to ischaemic heart disease?

1. An 80-year-old man with a history of diabetes mellitus and hypertension attended a general practitioner's clinic for recent-onset central chest discomfort and nausea. He had a history of peptic ulcer disease with gastrointestinal bleeding and he took H_2-blockers and antacids irregularly for 'ulcer syndrome'. He had withdrawn from his usual morning exercise in the park recently because of 'easy tiredness' on exertion. Examination revealed normal pulse rate and character; blood pressure of 120/60 mm Hg; no heart murmur was audible; and the chest was clear. Mild tenderness was elicited over the epigastric region but per-rectal examination showed no abnormality. His haemoglucostix result was 8 mmol/L and haemoglobin level was 11.0 g/dL. He was treated with a course of proton pump inhibitor. A barium meal was arranged for him as he was reluctant to undergo upper gastrointestinal endoscopy. Two days later, he attended the accident and emergency department with an episode of syncope and shortness of breath.

   Questions for discussion:
   (a) What do you think was the likely cause of his syncope and shortness of breath, and why?
   (b) What simple investigation would be important to give a definite diagnosis for his presenting problem?

2. A 75-year-old woman presented to an accident and emergency department with severe intermittent left-sided chest pain for 2 days. The pain was sometimes sharp and intolerable. She had a history of diabetes mellitus and old myocardial infarction and stable angina. The chest pain was not relieved by sublingual nitrate on the day of admission. Electrocardiogram on admission showed ST depression and T-wave inversion in the left lateral leads. Her cardiac enzyme levels were normal. She was treated as acute coronary syndrome with intravenous nitrate, beta-blocker, and low-molecular-weight heparin injection. The pain continued to persist and 2 days later she reported a rash over her chest.

   Questions for discussion:
   (a) What do you think this woman have was suffering from, and why?
   (b) What would be the appropriate management?

3. An 85-year-old lady with a 10-year history of hypertension regularly attended follow-up in the general outpatient clinic and was taking four antihypertensives. She attended the emergency department one night complaining of chest pain. The chest pain was radiating to her back, persistent, and was exacerbated by sitting up. Her electrocardiogram revealed only hypertensive changes. Cardiac enzymes were normal and echocardiograph showed no aortic regurgitation with a normal ejection fraction.

   Questions for discussion:
   (a) What do you think this old lady is suffering from?
   (b) What further investigation(s) you would order?

Journal Reading

Read the following journal articles and discuss how to approach and manage older patients who present with chest discomfort in the primary care setting.

1. Gregoratos G. Clinical manifestations of acute myocardial infarction in older patients. Am J Geriatr Cardiol 2001;10:345-7.
2. Chan WK, Lam PT, Ng WL, Hui KF, Ngai YM, Leung MF. Differences in clinical presentation of acute myocardial infarction between elderly and younger patients: a three year prospective study in a regional hospital. J Hong Kong Geriatr Soc 1997;8:12-5.

Read the following journal articles and discuss how to manage an older patient with heart failure in a primary care setting.

3. Zachariah D, Taylor J, Rowell N, Spooner C, Kalra PR. Drug therapy for heart failure in older patients — what do they want? J Geriatr Cardiol 2015;12:165-73.
4. Azad N, Lemay G. Management of chronic heart failure in the older population. J Geriatr Cardiol 2014;11:329-37.

CHAPTER 38L

CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Bernard Ming-hei KONG, Christopher Chor-ming LUM

Case Commentary

1. Select five patients from your clinical practice who have chronic obstructive pulmonary disease (COPD).

   In each individual, describe the following:
   (a) How was the diagnosis of COPD made?
   (b) Use the combined assessment of COPD rubric to stage his / her disease. Under what patient group is he / she?
   (c) What is the medical treatment of his / her COPD? Is it optimised?
   (d) For each individual (including those on oral medication only, if any), assess his / her skills in the application of metered dose inhaler (MDI) and / or assistive device. Does he / she use it effectively?
   (e) If your patient has problem with the use of MDI and / or assistive device, try to teach him / her the appropriate technique. Can he / she learn how to use MDI and / or assistive device now? In your patient education process, which step was the most difficult for him / her to learn? How would you overcome this?

   What is your view on the applicability of MDI among elderly patients?

2. Select five patients from your clinical practice who have chronic obstructive pulmonary disease (COPD).

   In each individual, describe the following:
   (a) How much has the chronic chest problem affected his / her lifestyle?
   (b) What are his / her activities of daily living and instrumental activities of daily living?
   (c) Are there any comorbidities? If yes, what are those?
   (d) Assess your patient's knowledge with regards to acute exacerbation:
      (i) Protection against exacerbation of COPD
      (ii) Exercise training for COPD patients
      (iii) Self-management skill in detecting early exacerbation
      (iv) Stepping-up of treatment in the early stage of acute exacerbation
   (e) For those with frequent exacerbations, are there any other causes that need to be excluded?

3. Select five patients from your clinical practice who have stable chronic obstructive pulmonary disease (COPD).

   (a) Assess the following dimensions in each individual:
      (i) Non-pharmacological treatment of COPD, especially smoking cessation.
      (ii) If combination drug therapy is used, what is the compliance of the patient?
      (iii) How would you assess his / her quality of life? How can it be improved?
      (iv) Has he / she been on pulmonary rehabilitation? Would you recommend it?
      (v) What vaccination would you give to your COPD patients? When and how frequent?
      (vi) Does the patient have any anxiety or depression? How do you manage it?
   (b) What is your overall impression on the impact of COPD in your patients?
   (c) What sort of assessment / assessment tools should we use in the comprehensive assessment of patients with background COPD?
   (d) Is he / she malnourished? How do you manage it?

Case Scenario

1. A 75-year-old man comes to your clinic for the first time with complaints of recurrent shortness of breath over the past 6 months. He has a background diagnosis of chronic obstructive pulmonary disease (COPD), and is receiving regular treatment from the public health sector. He has also been seeking advice from another clinic for repeated episodes of shortness of breath. Labels from the bag of medication revealed that he was given a 3-day prescription for nearly each visit: terbutaline SR po 7.5 mg bid, salbutamol po 4 mg tid, theodur po 200 mg bid, bisolvon po tab 1 tds, prednisolone 30 mg once daily, and various courses of antibiotics.

   Questions for discussion:
   (a) What will be your management approach?
   (b) Is the treatment appropriate? Why not?
   (c) How would you maintain his health in the community?
   (d) Is there anything that you might have done to improve the care of COPD patients?
   (e) How would you educate the patient about his disease condition?

Multiple Choice Questions

1. A 65-year-old woman has been having chronic obstructive pulmonary disease for the past 10 years. She was started on long-acting muscarinic antagonist 8 months ago with good response. She demonstrated good improvement in exercise tolerance. She visited her family doctor 3 times in the last 6 months for shortness of breath, persistent cough, and yellow sputum. On examination, her forced expiratory volume in one second (FEV_1) was 46% predicted and FEV_1/ forced vital capacity was 48%.

   Further management on this patient should be:
   (i) Advise her on regular short-acting bronchodilator
   (ii) Start regular systemic corticosteroid
   (iii) Add regular steroid inhaler
   (iv) Prescribe pulmonary rehabilitation
   (v) Advise long-term home oxygen therapy

   (a) i, ii
   (b) iii, iv
   (c) i, v
   (d) ii, iii
   (e) iv, v

2. An 80-year-old woman presented with frequent shortness of breath and hospitalisation. She was a heavy smoker for 40 pack-years and an ex-smoker for the last 10 years. Her usual general practitioner treated her as a patient with chronic obstructive pulmonary disease and she was on regular salbutamol, atrovent, and becloforte puffers. She was admitted 3 times to the hospital for dyspnoea this year and doctors in the hospital declined long-term oxygen therapy for her due to her age.

   Further management on this patient should be:
   (i) Advise her to keep taking the regular short-acting bronchodilator
   (ii) Add regular systemic corticosteroid
   (iii) Perform a comprehensive assessment on her
   (iv) Prescribe pulmonary rehabilitation
   (v) Prescribe long-term home oxygen therapy despite her age
   (vi) Assess comorbidities and obtain a differential diagnosis

   (a) i, ii, iii
   (b) iv, v, vi
   (c) i, iii, v
   (d) iii, v, vi
   (e) ii, iv, vi

CHAPTER 39L

ANAEMIA IN OLD AGE

Chiu-yin IP, Chi-shing LEUNG

Multiple Choice Questions

1. What is the most common cause of anaemia in elderly patients?
   (a) Myelodysplastic syndrome
   (b) Vitamin B_{12} deficiency
   (c) Chronic kidney disease
   (d) Iron-deficiency anaemia
   (e) Anaemia of chronic disease

2. Which of the following is unlikely to be the possible mechanism for development of anaemia of chronic disease in elderly patients?
   (a) Decreased red blood cell survival
   (b) Increased erythropoietin production
   (c) Abnormal iron metabolism
   (d) Hyperproduction of interleukin-6
   (e) Hyperproduction of tumour necrosis factor–alpha

3. Which of the following medications can cause vitamin B_{12} deficiency?
   (a) Diclofenac sodium
   (b) Gliclazide
   (c) Alendronate sodium
   (d) Metformin
   (e) Felodipine

Data Interpretation

Please fill in the remaining boxes in the following table with arrows.

Variable	Anaemia of chronic disease	Fe deficiency anaemia
Fe	↓	
TIBC		↑
Fe / TIBC		
Ferritin	→ ↑	
Cytokine level	↑	

Abbreviations: Fe = iron; TIBC = total iron-binding capacity

Case Scenario

1. An 80-year-old elderly woman is diagnosed to have iron-deficiency anaemia, haemoglobin 10.1 g/dL, and mean corpuscular volume 70 fL. A therapeutic trial of 300 mg ferrous sulphate orally 3 times daily was taken for 2 months. Repeat blood test 2 months later showed she was still anaemic with haemoglobin 9.8 g/dL.

   What are the possible causes?

CHAPTER 40L

COMMON SKIN PROBLEMS

James Ka-hay LUK

Multiple Choice Questions

1. Which of the following concerning pruritus in elderly people is true?
   (a) It nearly always presents with skin lesions.
   (b) It can be associated with systemic diseases as well as psychological conditions.
   (c) Pruritus associated with iron deficiency anaemia cannot be alleviated even after adequate iron replacement.
   (d) Liver diseases do not associate with pruritus unless there is marked jaundice.
   (e) Pruritus is often worse in the early morning.

2. Which of the following concerning the investigation and treatment of pruritus is false?
   (a) It should be guided by full history and investigation.
   (b) Not all patients with pruritus need to be fully investigated.
   (c) Antihistamine may be useful.
   (d) Topical steroids can be used for specific dermatological conditions.
   (e) Scratching is to be avoided if possible as it will lead to increased release of prostaglandins, resulting in more itching.

3. An elderly patient was suspected to have scabies and treated by benzyl benzoate 1 week ago (applied by an experienced nurse in a residential care home). She sees you again because of persistent itchiness. What is your best action?
   (a) Prescribe another course of topical scabicide immediately.
   (b) Prescribe antihistamine and closely monitor the patient's skin condition.
   (c) Check complete blood count and renal liver function.
   (d) Prescribe an oral scabicide.
   (e) Redo skin scrapping to test for scabies.

4. Which of the following concerning Norwegian Scabies is true?
   (a) It only occurs in elderly frail patients.
   (b) It is as contagious as the usual scabies.
   (c) It affects the head but spares the scalp and ear.
   (d) Skin preparation is necessary for successful topical scabicide treatment.
   (e) Oral scabicide is not effective.

Case Scenarios

1. A 78-year-old man with a history of ischaemic heart disease complains of chest pain. He has a history of herpes zoster in the thorax 3 months ago. On further questioning, he said that the pain started about a month ago and was getting worse. He was given many analgesics by the family doctors but these were not effective.

   Questions for discussion:
   (a) What further history would you like to obtain?
   (b) How are you going to examine him?
   (c) What investigation you would like to perform?
   (d) What is the most likely diagnosis?
   (e) What drug treatment you will give to the patient?
   (f) How are you going to advise on the prognosis of this condition to the patient?

2. An 80-year-old man attends your clinic today. He is a chair-bound inmate of a residential care home. He has a history of old stroke and epilepsy. The staff says that he has rash developing over the body for a few days with frequent scratching. On further questioning, she also mentions that several other residents on the same floor have similar itchy rash.

   Questions for discussion:
   (a) How will you establish the diagnosis of this patient?
   (b) What drug you will choose to treat the patient?
   (c) How will you advise the staff of the residential care home?
   (d) What course of action will you advise to the residents and staff of the residential care home?

CHAPTER 41L

DIABETES MELLITUS

Tin-wai WONG, Jenny Yin-yan LEUNG

Multiple Choice Questions

1. Which of the following is not a risk factor for developing diabetic foot ulcers in an elderly diabetic patient?
   (a) History of foot ulcer
   (b) Presence of peripheral vascular disease
   (c) Use of insulin therapy
   (d) Impaired vision
   (e) Recent change of footwear

2. Which of the following statements concerning hypoglycaemia in an elderly patient taking an oral hypoglycaemic agent is false?
   (a) Progressive diabetic nephropathy with latest creatinine level of 200 μmol/L
   (b) Recently discharged from hospital after treatment for pneumonia
   (c) Husband recently died of a cerebrovascular accident and the patient has poor sleep and a lack of interest in daily activities
   (d) Sweating, tremor, and palpitations as first manifestation of warning symptoms
   (e) Intensity of sympathetic warning symptoms is less compared with those in a young adult

3. Which of the following statements regarding the management of diabetes in elderly people is false?
   (a) Elderly people should be encouraged to use home blood glucose monitoring.
   (b) Insulin should be considered for long-standing diabetes with urine positive for ketones.
   (c) Use of home urine testing is accurate.
   (d) Management of hypoglycaemia should be taught especially when starting insulin therapy.
   (e) Demented patients can easily develop hypoglycaemia or hyperglycaemia.

Journal Reading

1. International Diabetes Federation managing older people with type 2 diabetes mellitus: http://www.idf.org/sites/default/files/IDF-Guideline-for-older-people-T2D.pdf.
2. Standards of medical care in diabetes. Diabetes Care 2016;39 Suppl 1: http://care.diabetesjournals.org/content/39/Supplement_1.toc

CHAPTER 42L

THYROID DISORDERS

Tin-wai WONG, Tak-kwan KONG

Multiple Choice Questions

1. Which of the following is not true about (subclinical) hypothyroidism in elderly patients?
   (a) Replacement with thyroxine should be considered if thyroid-stimulating hormone (TSH) exceeds 10 mIU/L.
   (b) Amiodarone-induced hypothyroidism can be treated with levothyroxine if amiodarone cannot be stopped.
   (c) Glucocorticoid and dopamine may mimic subclinical hypothyroidism.
   (d) Thyroxine replacement in elderly patients should start with a lower dose and increase gradually.
   (e) Iron and calcium supplements decrease thyroxine absorption.

2. Which of the following is not true about (subclinical) hyperthyroidism in elderly patients?
   (a) The frequency of toxic multinodular goitre increases with age.
   (b) Progression from subclinical to overt hyperthyroidism is uncommon.
   (c) Both subclinical and overt hyperthyroidism are associated with atrial fibrillation and osteoporotic fracture.
   (d) Non-thyroidal illness and malnutrition may mimic subclinical hyperthyroidism biochemically.
   (e) Radioactive iodine should be avoided in elderly patients due to increased adverse effects.

Case Scenario

1. A geriatric consultation was received from surgical department on 1 September 2017 for assessment on worsening dementia (Mini-Mental State Examination score [MMSE] was 10/30 for this admission compared with MMSE of 16/30 in January 2014) in an 87-year-old woman on her fifth day of admission via emergency department. The patient had a history of:
   - dementia (labelled Alzheimer's disease with late onset) and depression (labelled prolonged grief) followed up in psychiatric clinic, on Aricept (donepezil) 5 mg at bedtime, mirtazapine 45 mg at bedtime, and Pristo (desvenlafaxine succinate) extended release tablet 50 mg nocte from psychiatric clinic
   - vitamin B_{12} deficiency, hypothyroidism, and hypertension followed up in general outpatient clinic on mecobalamin 500 μg daily, thyroxine 100 μg om, and amlodipine 2.5 mg bd;
   - pemphigoid followed up in dermatology clinic on prednisolone 10 mg daily, doxycycline 100 mg pm, famotidine 40 mg bd, calcium carbonate 1500 mg pm

   She was admitted for right upper quadrant abdominal pain with query about history of fall. Although she said she had fallen at home, her son and daughter denied any fall incident. Examination on admission revealed no localised tenderness or injury over trunk and X-ray of her ribs revealed no fractures.

When assessed at bedside, the patient was noted to be on truncal restraint, and history taking and assessment was made difficult by her deafness. She wondered why she was brought into this building without her problems solved after seen by so many people. When assessed on her ability to use a mobile phone, she needed prompting for pressing the number "1" (preset by the ward nurse) to call her daughter and when the line got through, she told her daughter she wanted to go home. Her blood pressure was 120/60 mm Hg, and pulse 72/min, regular. Removal of the truncal restraint revealed a unilateral band of vesicular skin rash over her right trunk and it stopped at midline.

Further information was gathered from reviewing her electronic patient record:

- living alone since husband passed away in 2010, but regularly visited by her children (one son and one daughter), and on day care centre and home support team service since 2014
- developed low mood and noted cognitive decline since widowed, followed up in psychiatric clinic for depression and dementia since March 2012
- primary hypothyroidism diagnosed in December 2010 during thyroid function screening for impaired memory at general out-patient clinic, on thyroxine replacement since January 2011
- vitamin B_{12} deficiency diagnosed in March 2014 at general out-patient clinic, on oral B_{12} replacement since then
- history of fall with fractured right humerus in September 2015
- history of symptomatic hypotension hospitalised in March 2017 with antihypertensives withheld
- pemphigoid diagnosed in May 2017, on prednisolone (plus calcium carbonate) by dermatology clinic since then
- drug taking was supervised at day care centre attendance (since 2014) and regular visits by her children

Her serial thyroid function and serum creatinine are as shown below (with values outside reference range bolded; TSH = thyroid-stimulating hormone; fT4 = free thyroxine):

Age (years)	87.666	87.661	87.658	87.655	87.655	87.606	87.354	87.302
Date	01-09-17	30-08-17	29-08-17	28-08-17	28-08-17	10-08-17	10-05-17	21-04-17
fT4 (pmol/L)						13.70	**11.90**	
TSH (mIU/L)						**10.2**	**9.0**	
Creatinine (μmol/L)	**109**	**105**	**94**	**100**				**129**

Age (years)	87.198	87.195	87.121	87.105	87.099	87.094	87.091	86.839
Date	14-03-17	13-03-17	14-02-17	08-02-17	06-02-17	04-02-17	03-02-17	03-11-16
fT4 (pmol/L)	**10.40**							13.8
TSH (mIU/L)	**12.5**					**5.89**	2.98	**5.2**
Creatinine (μmol/L)	**103**	**144**	**112**	**105**	**104**	**92**	**97**	**113**

Age (years)	85.815	85.719	85.643	84.509	84.361	84.175	83.269	83.217
Date	26-10-15	21-09-15	24-08-15	06-07-14	13-05-14	06-03-14	09-04-13	21-03-13
fT4 (pmol/L)			15.4			15.9	13.4	
TSH (mIU/L)			**5.35**		1.95	**4.9**	**8.84**	**5.65**
Creatinine (μmol/L)	73	83	**87**	**86**	**110**	**88**	77	

Age (years)	82.472	82.185	81.643	81.183	80.997	80.953
Date	22-06-12	09-03-12	24-08-11	09-03-11	31-12-10	15-12-10
fT4 (pmol/L)	17.4		14.7	14.1	**9.9**	
TSH (mIU/L)	2.3	**12**	**11.5**	**15.4**		**39.6**
Creatinine (μmol/L)	**84**	76				

Questions for discussion:

(a) What is the likely cause of her abdominal pain and what precaution one has to take when prescribing specific treatment?
(b) What factors may account for her low MMSE of 10/30 for this admission?
(c) How would her current medication affect her thyroid function test on 10 August 2017?
(d) What are the probable causes of her subclinical hypothyroidism for this admission?
(e) What are the clinical features in her that can be accounted by her thyroid status in 2010, and for this admission?
(f) What are the fall risk factors in her?
(g) Do you think her problems can be solved by admission into a surgical ward?

Journal Reading

- Bahn Chair RS, Burch HB, Cooper DS, et al. Hyperthyroidism and other causes of thyrotoxicosis: management guidelines of the American Thyroid Association and American Association of Clinical Endocrinologists. Thyroid 2011;22:593-646.
- Garber JR, Cobin RH, Gharib H, et al. Clinical practice guidelines for hypothyroidism in adults: cosponsored by the American Association of Clinical Endocrinologists and the American Thyroid Association. Endocr Pract 2012;18:988-1028.
- Visser WE, Visser TJ, Peeters RP. Thyroid disorders in older adults. Endocrinol Metab Clin North Am 2013;42:287-303.

Questions for discussion:

1. How should we initiate and titrate the dosage of levothyroxine in an elderly individual with primary hypothyroidism?
2. What is the choice of treatment for hyperthyroidism due to Graves' disease versus toxic multinodular goitre in elderly patients?
3. What are the factors that should be considered when deciding to treat subclinical hyperthyroidism in elderly patients?

CHAPTER 43L

GASTROINTESTINAL DISORDERS

Christopher Chor-ming LUM

Multiple Choice Questions

1. In the management of dysphagia secondary to advanced neurodegenerative conditions, which of the following is correct?
   (a) Percutaneous endoscopic gastrostomy (PEG) prevents aspiration pneumonia.
   (b) Nutritional support through PEG improves 1-year survival from 35% to 60%.
   (c) By 1 year, about 10% of patients develop complications at the PEG exit site.
   (d) Nasogastric tube (NGT) feeding achieves a better patient outcome than PEG feeding.
   (e) Use of PEG is much more comfortable than use of NGT.

2. Regarding screening for colon cancer, which of the following is correct?
   (a) Older patients should have more frequent colonoscopy surveillance as they have a higher incidence of colon cancer.
   (b) Age should be the single decisive factor when deciding for or against colonoscopy screening.
   (c) With current expertise and technology, the procedure success rate for colonoscopy is similar for young and old patients.
   (d) Computed tomographic colonography is as good as colonoscopy in identifying colon cancer.
   (e) Colonoscopy poses high iatrogenic risks among octogenarians.

3. With regard to diarrhoea in old age, which of the following is correct?
   (a) Irritable bowel syndrome is not uncommon.
   (b) It is a known side-effect of cholinesterase inhibitors and serotonin reuptake inhibitors.
   (c) Institutionalisation and use of a proton pump inhibitor are associated with pseudomembranous colitis.
   (d) *Clostridium difficile* can exist as asymptomatic colonisation in patients without diarrhoea.
   (e) All of the above.

4. The following are known symptoms of gastroesophageal reflux disease, except
   (a) dental erosions
   (b) subscapular pain
   (c) belching
   (d) shortness of breath
   (e) hoarse voice

CHAPTER 44L

PRESSURE ULCERS

Yiu-Keung KWAN

Multiple Choice Questions

1. Which of the following is the major cause of developing pressure ulcer over the sacrum?
   (a) Prolonged lying in a standard hospital bed
   (b) Poor nutrition status
   (c) Elevation of the bed above 30 degrees
   (d) Urinary incontinence
   (e) Having physical restraints over both upper limbs

2. Which of the following statement is true?
   (a) Wound swab should be used to diagnose wound infection.
   (b) Systemic antibiotics should be used for treating local wound infection.
   (c) Hard and dry eschar over the heel should be debrided.
   (d) Silver dressing should be used for suspected local wound infection.
   (e) Mechanical debridement is preferred over non-mechanical debridement for stable eschar.

Case Scenario

1. You are asked to see a 75-year-old man in a nursing home for a large sacral sore. He has a medical history of stroke, vascular dementia, diabetes mellitus, and hypertension. He is chair-bound with a poor sitting balance. He also cannot control his bowel and bladder. He has developed a small sacral sore after discharge from the hospital 4 weeks ago because of pneumonia. Despite daily normal saline dressing with gauze, the sore has increased in size. On examination, it is a stage 3 pressure ulcer measuring 5 cm x 4 cm in size. The wound bed is clean and filled with granulation tissue. The wound discharge is serous. The caretaker is worried that the wound is infected and asks you to order a wound swab and prescribe antibiotics.

   Questions for discussion:
   (a) Do you think that the wound is infected? How would you diagnose wound infection?
   (b) Would you put the patient on systemic antibiotics?
   (c) Could you suggest why the sacral sore was increasing in size?
   (d) What would be your advice to the caretaker?

CHAPTER 1L

Multiple Choice Questions

1. d
2. c

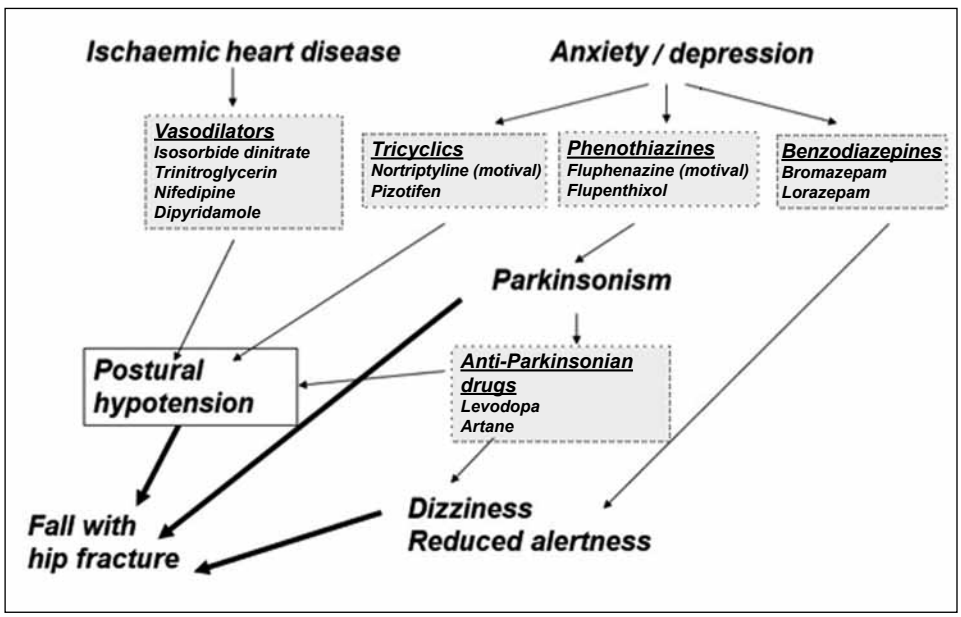
Case Scenarios

1. (a) Nurses saw in this old woman a frail elderly patient, non-communicable, mute and deaf, confused, and dependent in her activities of daily living (needed help with feeding and bathing).

   This old woman perceived herself as a person with feeling and a life story to tell: the vigorous young woman, the caring mother, and the old woman living with losses accompanying her late-life decline.

   Discrepancy might arise because of:
   - inability of this old woman to communicate verbally due to deafness, "dementia", dysphasia or inability of nurses to communicate non-verbally ("open their eyes") because of impatience, insensitivity or compassion fatigue. So, she was unknown to her nurses beyond what they saw of her failing body;
   - institutionalisation and regimentation; and
   - system factors at risk of dehumanisation: lack of resources and time, lack of recognition

2. (a) Ischaemic heart disease, anxiety / depression, parkinsonism (drug-induced), postural hypotension, and hip fracture
   (c) Prescribing cascade



Data Interpretation

(a) Black death (plaque due to *Yersinia pestis*)
(b) Advancements in nutrition, public health, medicine, socioeconomics, and education
(c) 61.7 Years for men, 67.4 years for women (Reference: Warren MW. Care of the chronic aged sick. Lancet 1946;1:841-3.)

Journal Reading

1. (a) Biological ageing:
   - Differentiate from chronological ageing
   - Characterised by:
     - o Frailty: state of unstable equilibrium, reduced adaptability to stress or challenge, accumulation of multiple deficits
     - o Complexity: multiple interacting causes, including socio-environmental factors
   - Presentations as geriatric syndromes and functional decline
   - Consequences / impacts including disability and susceptibility to iatrogenesis

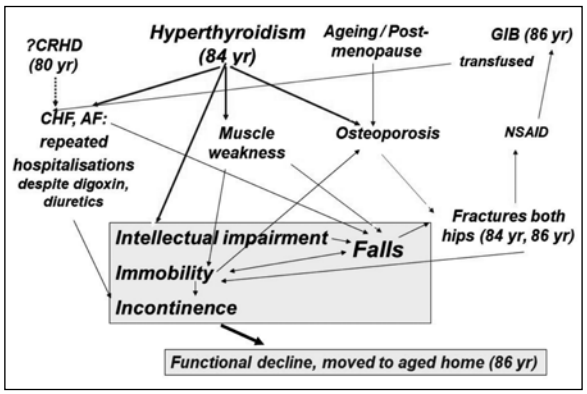
CHAPTER 2L

Multiple Choice Questions

1. b
2. e

Case Scenario

(a) Initial diagnostic labelling of chronic rheumatic heart disease (CRHD) from "atrophy of question mark" (uncertainty converted to certainty) causing a delay in diagnosis of hyperthyroidism that explained her atrial fibrillation, heart failure, myopathy, and osteoporosis. An example of complexity, multiple aetiologies / pathologies (many-to-many relationship) leading to the final common pathway of geriatric syndromes (intellectual impairment, instability / falls, immobility, incontinence) and functional decline and institutionalisation.



Abbreviations: AF = atrial fibrillation, CHF = congestive heart failure; GIB = gastrointestinal bleeding; NSAID = non-steroidal anti-inflammatory drug; yr = years

Data Interpretation

(a) Left hemineglect.
Albert's test score = 24 (number of lines left uncrossed) / 40 (total number of lines to be crossed) = 60%

(b) Poor (Fullerton KJ, McSherry D, Stout RW. Albert's test: a neglected test of perceptual neglect. Lancet 1986;1:430-2.)

CHAPTER 3L

Multiple Choice Questions

1. c
2. a

CHAPTER 4L

Case Scenario

During hospitalisation, her urinary catheter could be weaned off and removed after treating the UTI, prescribing laxatives and low-dose distigmine. She had delirium symptoms that persisted for more than 2 weeks and required physical restraints and antipsychotic medications. Workup for acute confusion on top of previous mild cognitive impairment showed no electrolyte disturbances, normal thyroid function, and unremarkable findings on computed tomographic scan of the brain. Although confusion subsided, and her cognitive status improved to 18/30 on the Cantonese version of the Mini-Mental State Examination, she remained at a borderline functional status for reintegration into community.

Postoperative pain was controlled by paracetamol and tramadol but side-effects of nausea and constipation were distressing and compromised her already poor dietary intake.

Older patients are more prone to side-effects of common drugs and due attention and adjustments should be made to address these problems. Nutritional supplementation was continued throughout the rehabilitation as her body mass index was low and haemoglobin and albumin levels remained borderline after the surgery and sepsis.

Secondary prevention of osteoporosis is an important consideration even at the age of 80 years. As the patient was able to return to her previous dwelling (albeit with some assistance), she was still ambulatory and thus prone to future falls. The risk of further osteoporotic fractures is a real one and the patient should be advised about fall precautions, environmental modifications, and medications for osteoporosis. Calcium and vitamin D supplements are standard therapy nowadays and if the patient can comply with oral medications, bisphosphonates may be prescribed with memory aids to ensure intermittent dosage regimens. If preferred or affordable, she can be treated with twice yearly or yearly injections of some more expensive medications.

Environmental modifications were made before discharge from rehabilitation but the patient remains home-bound as she has no direct lift access. An escort service by home helpers helps her to attend follow-up clinics and further training at a geriatric day hospital but her usual attendances at the community elderly centre and shopping at a nearby wet market where she could meet some friends are not possible after this episode. Ideally, housing transfer could be recommended by healthcare professionals if she was living in public housing but the patient may not wish to leave her present apartment.

Cognitive deficit was not followed up after this fall episode and her functional abilities were expected to decline gradually as the patient in fact had mild-to-moderate Alzheimer's disease. She is likely to be able to cope at home until an acute illness occurs (e.g. another fall or sepsis) and will then probably require long-term placement in a nursing home in the absence of sufficient social support.

Multiple Choice Questions

1. d
2. b

CHAPTER 5L

Multiple Choice Questions

1. b
2. e

CHAPTER 6L

Multiple Choice Questions

1. d
2. b

CHAPTER 7L

Multiple Choice Questions

1. c
2. b
3. c

CHAPTER 8L

Multiple Choice Questions

1. b
2. e
3. e

CHAPTER 9L

Multiple Choice Questions

1. e
   Echocardiogram is a highly operator-dependent examination and requires a lot of training to perform. To date, echocardiogram images have been transmitted to tertiary centres for interpretation but have not been used as home monitoring equipment (please refer to Chapter 9.2.4 "Home Care" for the types of telecare equipment).
2. d
   The major categories of telemedicine programmes in the literature are store-and-forward, real-time interactive telemedicine, and home healthcare / remote monitoring. No major study about critical care pathways and telemedicine could be retrieved from a MEDLINE search.

Journal Reading

1. e
   As mentioned in the article, in addition to the above, other reasons for resistance of healthcare workers to the implementation of telemedicine include:
   - Fear that telemedicine is market-driven, rather than being user-driven, with the risk of market-driven abandonment of products and technologies
   - Lack of consideration of knowledge and skills
   - Cultural and linguistic differences
   - Lack of agreed standards

CHAPTER 11L

Multiple Choice Questions

1. b
2. d
3. d
4. c

CHAPTER 12L

Multiple Choice Questions

1. d
2. e

CHAPTER 13L

Multiple Choice Questions

1. c
2. e

CHAPTER 14L

Multiple Choice Questions

1. d
2. b

CHAPTER 15L

Multiple Choice Questions

1. c
2. e
3. d
4. e

Case Scenario 1

(a) Hypoglycaemia (low haemoglucostix, dullness, and impaired consciousness as neuroglycopenic symptoms, corrected by glucagon injection and dextrose infusion).

(b) The sympathetic response (tachycardia) to hypoglycaemia was not seen in this patient because this was blunted by ageing and the beta-blocker (metoprolol) he was taking for his hypertension.

(c) Prolonged hypoglycaemia induced by long-acting oral hypoglycaemic drug (e.g. glibenclamide). In the absence of a history of diabetes nor prescription of oral hypoglycaemic drugs, there should be a high index of suspicion for adulteration of his over-the-counter (OTC) impotence capsule with oral hypoglycaemic drugs. To confirm this, the patient's blood and urine should be collected, together with samples of his OTC capsules sent for toxicological studies. Sildenafil metabolites, and glibenclamide and its metabolites were detected in this patient's urine sample. Sildenafil, tadalafil, and glibenclamide were detected in samples of his OTC capsules. A cluster of hypoglycaemic cases related to the use of OTC erectile dysfunction drugs which contain glibenclamide have been reported in Hong Kong.

(d)
- Estimated creatinine clearance (eCrCl) with Cockcroft-Gault (CG) formula = 35 ml/min
- Estimated glomerular filtration rate (eGFR) [abbreviated Modification of Diet in Renal Disease Chinese] = 63 ml/min/1.73 m^2
- eGFR (Chronic Kidney Disease Epidemiology Collaboration [CKD-EPI] Chinese modification) = 64 ml/min/1.73 m^2
- eGFR (CKD-EPI Chinese modification with body surface area [BSA] removed) = 56 ml/min

(e) Following the US NKDEP (National Kidney Disease Education Program) recommendation, either a CG-derived eCrCl or an eGFR with BSA normalisation removed are acceptable for drug dosing decision. Both his eCrCl and eGFR (CKD-EPI with BSA removed) are less than 60 ml/min (GFR category G3a) indicating mild-to-moderately decreased renal function so that the clearance of renally excreted glibenclamide and its active metabolites are reduced in this patient with consequently prolonged hypoglycaemia.

(f) Metoprolol (beta-blocker side-effect)

CHAPTER 16L

Multiple Choice Questions

1. c
2. e

CHAPTER 17L

Multiple Choice Questions

1. b

   Cognitive testing may be helpful in capacity assessment but the result is not conclusive. Since decision capacity is task-specific, even a cognitively impaired individual may retain a capacity to make certain decisions as long as the key criteria are fulfilled. Therefore, choice (b) is incorrect.

   The key criteria for a decision-making capacity are that the patient is able to communicate a choice consistently (a), can understand the risks and benefits of proposed treatments, can demonstrate reasoning when accepting or refusing proposed treatments (d), and that the decision is voluntary and made without coercion (e). Additionally, decision making cannot be impaired by depression (c) or psychosis.

2. e
   Advance directives have been shown to lead to many problems in clinical practice including difficulty extrapolating treatment preferences to unforeseen clinical situations, leading to misinterpretation and misapplication in treatment decisions (a). Although advance directives are intended to guide surrogate decision makers when called upon to make a medical decision, studies have shown that their knowledge of a patient's preferences is no better than chance when advance directives are available but the patient has not previously discussed with them any preferences, goals, or values (b). Patients can and do change their preferences for care over time, especially as their health status changes. Advance directives must be periodically reviewed to ensure that they accurately reflect a patient's current view (c).

CHAPTER 18L

Multiple Choice Questions

1. e
2. e

CHAPTER 19L

Multiple Choice Questions

1. d
2. c

CHAPTER 20L

Multiple Choice Questions

1. e
2. d

CHAPTER 21L

Multiple Choice Questions

1. d
2. b

CHAPTER 22L

Multiple Choice Questions

1. d
   In 1984, Resnick suggested the mnemonic of "DIAPPERS" for easy reference of the transient causes of urinary incontinence and this is still widely used (see Table 22.3). The Fourth International Consultation on Incontinence 2009, however, made two alterations to the mnemonic: (1) atrophic vaginitis does not itself cause urinary incontinence and should not be treated for this purpose, and (2) current consensus criteria for urinary tract infection are poorly sensitive and specific in nursing home residents and overtreatment of asymptomatic bacteriuria should be avoided.
2. c
   Distigmine (Ubretid) is a cholinergic agonist used in detrusor underactivity while the others can be used in the management of detrusor overactivity.

Bladder training	For the cognitively intact individual, bladder training aims to reduce the occurrence of inappropriate urge and to increase the functional capacity of the bladder. Bladder training has been shown to be effective in managing urge incontinence.
Use of oxybutynin (Ditropan)	This is an anticholinergic agent used in urge incontinence with detrusor overactivity.
Use of distigmine (Ubretid)	This is a cholinergic agonist used in detrusor underactivity.
Avoidance of caffeinated beverages	Caffeinated beverages can lead to bladder stimulation causing detrusor overactivity.
Pelvic floor exercises	Some patients with urge incontinence may benefit from pelvic floor exercises since pelvic floor contraction is a strong inhibitor to detrusor overactivity.

Case Scenario

(a) Yes, there are possible transient causes of urinary incontinence. Possible transient causes of urinary incontinence in this case are coffee intake (caffeinated beverages can lead to bladder stimulation causing detrusor overactivity) and Natrilix SR (a diuretic that may cause polyuria).
(b) Advise patient to stop coffee drinks and avoid other caffeinated beverages. Stop Natrilix SR and try other antihypertensive.
(c) Urge incontinence and stress incontinence (mixed incontinence).
(d) General management — education about diet and fluid intake, regulation of bowel habit, avoidance of bladder irritants (caffeinated beverages), and weight reduction.

Pelvic floor exercises — pelvic floor exercise with or without biofeedback is highly effective in relieving the symptoms of stress incontinence. Some patients with urge incontinence may also benefit from pelvic floor exercises since pelvic floor contraction is a strong inhibitor to detrusor overactivity.

Behavioural modifications — in the cognitively intact individual, bladder training has been shown to be effective in managing urge incontinence. It involves a strict schedule of toileting and requires the patient to resist or inhibit the sensation of urgency (the strong desire to urinate), to postpone voiding and to urinate according to a timetable rather than the urge to void. It aims to increase the interval between urination gradually until normal voiding interval is reached, i.e. every 3 to 4 hours. Consistent charting of the voiding pattern is vital in assessing progress, and can provides the patient with useful feedback that results are positive. Bladder training requires the patient to start and maintain a schedule for voids and usually takes 6 to 8 weeks for benefit to be seen.

Drug treatment — please refer to Table 22.7

Surgical treatment — for resistance incontinence not amenable to conservative measures and drugs. Female patients with stress incontinence who fail to respond to pelvic floor exercise will need to consider surgery. With the introduction of minimally invasive surgery and tension-free vaginal tapes, many older women can benefit from these less invasive procedures.

CHAPTER 23L

Multiple Choice Questions

1. b
2. e

CHAPTER 24L

Multiple Choice Questions

1. a
2. e

CHAPTER 25L

Multiple Choice Questions

1. c
2. e
3. d
4. a

CHAPTER 26L

Multiple Choice Questions

1. b
2. d

CHAPTER 27L

Multiple Choice Questions

1. d
2. b

CHAPTER 28L

Multiple Choice Questions

1. e
   For adults aged ≥75 years, age-related macular degeneration is the major cause of vision loss followed by cataracts.
2. e
   All descriptions are normal changes associated with ageing.

CHAPTER 29L

Multiple Choice Questions

1. e
2. c
3. e
4. d

Case Scenario 1

(a) Examine for focal muscle atrophy over lower limbs, abdominal bruising, localised lumbosacral tenderness over spine and pelvis, palpable abdominal masses and a distended bladder, motor power loss and reduced sensation over lower limbs.
Findings: The muscles of both lower limbs were wasted, particularly, the right gluteal muscles. Motor power in both lower limbs was 4/5, with diminished jerks and bilateral flexor plantar reflexes. Sensation to light touch was reduced over right L5 distribution. Tenderness was elicited over the lower lumbar spine. No abdominal bruising or palpable abdominal / inguinal masses were detected.

(b) Body temperature, blood pressure / pulse, bowel and bladder function, oral intake, body weight
Findings: Ear temperature on admission was 36.3°C, and it ranged from 36.2°C to 36.8°C during his 2-week stay in the hospital; blood pressure and pulse recordings showed no evidence of hypotension or shock; no bowel opening was recorded in the past 1 week, and bladder scan revealed a post-void residual volume of 200 mL. His appetite was fair, body weight was 49.7 kg on the day of transfer (compared with outpatient records of body weight of 53 kg 4 months ago, and 55.2 kg 1 year ago).

(c) Cauda equina syndrome secondary to lower lumbosacral pathology (infective / tuberculous, neoplastic, osteoporotic, degenerative). The presence of over-anticoagulation may alert one to the differential diagnosis of retroperitoneal haematoma, but this is less likely because of the subacute presentation, and absence of signs of significant bleeding (no drop in haemoglobin and blood pressure).

(d) Computed tomographic (CT) pelvis and lumbar spine; sputum for acid-fast bacilli (AFB) smear and AFB culture test with sensitivity test
Findings: CT pelvis (Figure 29L.3) revealed acute spondylodiscitis of L4 and L5 with paravertebral abscess (more severe on the right than on the left) and compression of cauda equina. *Mycobacterium tuberculosis* was cultured from aspirate of CT-guided drainage of paravertebral abscess and also from the sputum. The diagnosis of pulmonary and spinal tuberculosis was compatible with his subacute presentation, gradual weight loss, and haematological and biochemical findings of anaemia, lymphocytosis, monocytosis, hyponatraemia, hypoalbuminaemia, and hyperglobulinaemia. Note the absence of recorded fever response.



Figure 29L.3

CHAPTER 31L

Multiple Choice Questions

1. d
$\geq 10^3$ Colony-forming unit (CFU) per mL in an in-and-out catheter specimen is significant bacteriuria but presence of symptoms referable to the urinary tract is required to qualify as a urinary tract infection (UTI) and consequent initiation of antimicrobial treatment. Similarly, $\geq 10^3$ CFU/mL in a male patient is significant bacteriuria but, in the absence of symptoms, is diagnosed as asymptomatic bacteriuria. Recurrent falls and cloudy urine are not indicative for UTI. Presence of pyuria in a patient without symptoms can be due to asymptomatic bacteriuria, i.e. pyuria does not discriminate between asymptomatic bacteriuria and UTI. Nonetheless in a febrile patient with an indwelling catheter, absence of pyuria indicates a source of sepsis other than UTI.[1]

Reference

1. Hooton TM, Bradley SF, Cardenas DD, et al. Diagnosis, prevention, and treatment of catheter-associated urinary tract infection in adults: 2009 International Clinical Practice Guidelines from the Infectious Diseases Society of America. Clin Infect Dis 2010;50:625-63.

2. a
Female nursing home residents have a high pre-test probability for presence of pyuria and bacteriuria; negative leukocyte esterase (LE) and nitrite tests together exclude the presence of bacteriuria.[1] Performance of the LE and nitrite tests is poorer for other populations. 50% Of community-dwelling female patients <70 years with symptoms of acute uncomplicated UTI have a positive urine culture when both LE and nitrite tests are negative.[2] Nitrite tests are based on the presence of nitrate-reducing enzymes that are present in the common Gram-negative uropathogens. Other uropathogens like Enterococcus, Staphylococcus or Candida do not possess this enzyme so the test is negative. The nitrite test can be falsely negative in the presence of Gram-negative bacteriuria if bladder incubation time is too short, as may occur in frequent micturition. A patient with pyuria and bacteriuria is diagnosed to have UTI only in the presence of symptoms referable to the urinary tract.

References

1. Juthani-Mehta M, Tinetti M, Perrelli E, Towle V, Quagliarello V. Role of dipstick testing in the evaluation of urinary tract infection in nursing home residents. Infect Control Hosp Epidemiol 2007;28:889-91.
2. Nys S, van Merode T, Bartelds AI, Stobberingh EE. Urinary tract infections in general practice patients: diagnostic tests versus bacteriological culture. J Antimicrob Chemother 2006;57:955-8.

Journal Reading

1. (a)
   - The indication for a urinary catheter needs to be reviewed daily.
   - Empower nursing staff to remove a catheter when no longer indicated.
   - Implement auto-stop reminder whenever applicable.
   - Perform hand hygiene before and after urinary catheter care.
   - Consider using bedside ultrasound to screen for post-voiding residual urine volume before insertion of a catheter in a selected group of patients.

CHAPTER 32L

Multiple Choice Questions

1. d
The existing data do not support tighter glycaemic control to protect diabetic long-term care facilities residents from pneumonia (Chen LK, Peng LN, Lin MH, et al. Diabetes mellitus, glycemic control, and pneumonia in long-term care facilities: a 2-year, prospective cohort study. J Am Med Dir Assoc 2011;12:33-7), although hyperglycaemia may impair the function of leucocytes.
2. b
Our local data indicate that *Legionella* infection is very rare, supported by the annual notification figures. Poor dental hygiene is related to a higher risk of pneumonia. Feeding tubes do not reduce and may even increase the risk of aspiration pneumonia. The tuberculin test is not useful in diagnosing pulmonary tuberculosis in our locality. Outbreaks of influenza-like illness in nursing homes are usually due to respiratory viruses, such as influenza virus and respiratory syncytial virus, but not bacteria.

Case Scenario

Compared with her community-living counterparts, this patient was at higher risk of infection with Gram-negative bacilli (GNB) and *Staphylococcus aureus*. A broad-spectrum beta-lactam / beta-lactamase inhibitor antibiotic should be prescribed empirically to cover pneumococcus, *S. aureus*, and GNB. Examples include Augmentin and Unasyn. The authors recommend the empirical use of an antibiotic with atypical coverage in patients with severe pneumonia. Thus, macrolide or doxycycline may not be necessary in this patient. Oseltamivir is indicated because of confirmed outbreaks of influenza A infection among nursing home residents.

CHAPTER 33L

Multiple Choice Questions

1. e
2. c

CHAPTER 34L

Multiple Choice Questions

1. e
2. d

CHAPTER 35L

Multiple Choice Questions

1. b
2. c
3. a

Case Scenario

(a) This patient had wake-up stroke; the exact stroke onset time should be between 10:30 when he was last seen well, and 11:30 when he woke up with hemiplegia. As a rule of thumb, the time when a patient was last seen to be well should be considered as the symptom onset time to assess the eligibility for thrombolysis, and fortunately for this man, it still falls within the treatment window for thrombolysis. Otherwise, if 'time' is not a reliable marker for the age of infarct, one has to resort to advance neuroimaging techniques such as magnetic resonance imaging (MRI) diffusion-weighted imaging–fluid-attenuated inversion recovery (DWI-FLAIR) mismatch to assess the eligibility for thrombolysis.

(b) The computed tomography (CT) shows bilateral infarctions in the periventricular region. The left-sided infarcts are of cerebrospinal fluid density with leukomalacia; these are not the accountable infarcts for this hyperacute stroke, and although located in the same vascular territory as the acute event, these should not be included in counting the volume of the new infarction, which is not visible in this early scan. Most of the guidelines suggest that an early infarction which is <1/3 of the middle cerebral artery territory would be eligible for thrombolysis. To apply this criterion in the presence of old infarcts is not that straightforward.

(c) The National Institutes of Health Stroke Scale (NIHSS) and size of infarction on CT are the most important predictors for haemorrhagic transformation after thrombolysis. Other predictors include uncontrolled hypertension in the first 24 hours, leukoaraiosis, and possibly, advanced age and hyperglycaemia. In this patient, there is an elevated bleeding risk with leukoaraiosis on CT scan. Thrombolysis was given at 13:20. The NIHSS score improved from 18 to 1 the next morning. He had a near-complete recovery.

CHAPTER 36L

Multiple Choice Questions

1. d
2. c

Case Scenario 1

(a) Computed tomographic (CT) brain (plain) shows old infarction in the left frontal region which did not correlate with the patient's complaint of left arm weakness and pain.

(b) The neurological deficit (left arm pain and weakness with normal left leg power and normal speech) did not correspond with a vascular territory of a thromboembolic (TE) stroke.

(c) Acute embolism of left brachial artery complicating atrial fibrillation.

(d) Urgent CT angiogram of the left arm. This shows total occlusion of left brachial artery in the elbow region; the radial and ulnar arteries were perfused through collaterals (Figure 36L.2).



Figure 36L.2

(e) Anticoagulation (his left arm circulation improved after anticoagulation, and the pain and weakness were both resolved within a few days).

Case Scenario 2

(a) The modifiable risk factors of dementia in this patient include: atrial fibrillation and the vascular risk factors of hypertension, diabetes, and hypercholesterolaemia.

(b) Her risk factors for atrial fibrillation include: age, hypertension, diabetes, hypercholesterolaemia, and ischaemic heart disease.

(c) Factors to consider when deciding to start anticoagulation in this patient are:

- Benefit to her: Anticoagulation will reduce her stroke risk, thromboembolic (TE) risk, and vascular cognitive impairment. Her stroke and TE risks are high as assessed by the CHA_2DS_2-VASc score (score=7; annual stroke risk=8%; TE risk=9%).
- Risk to her: Anticoagulation will increase her bleeding risk. Her major bleeding risk is 5.8 events per year, as estimated from her HAS-BLED score (score=3: evidence of stroke, is an elderly person, and is on aspirin). Her fall risk needs to be assessed, including assessment for postural hypotension.
- Renal function: Her glomerular filtration rate (GFR) is <30 ml/min (body weight=43 kg; serum creatinine=139 μmol/L; thus estimated creatinine clearance [eCrCl] using Cockroft-Gault formula = 20 ml/min; eGFR [CKD-EPI (Chronic Kidney Disease Epidemiology Collaboration) equation for Chinese] with body surface area removed=29 ml/min; for formulae, see Chapter 15). Note that the HAS-BLED score uses serum creatinine of >200 μmol/L to define abnormal renal function, and would, thus, miss the significant renal impairment in this patient. Since her GFR <30 ml/min, non–vitamin K antagonist oral anticoagulants are not advisable in this patient. Also, the use of warfarin is associated with an increased risk of bleeding when GFR <30 ml/min. Thus, dose reduction, vigilant monitoring and targeting the lowest effective INR are necessary.
- Drug adherence and social support: Her vision, and ability to handle medication and adhere to drug regimes need to be assessed. If the husband has to be relied upon for drug supervision, the health and cognitive status of the husband need to be known. Support from other family members also needs to be explored.
- Patient's wish and choice: After explaining the benefit-to-risk ratio associated with the use of anticoagulation, it is important to listen to and address the patient's concerns. Finally, it is important to respect the wish and choice of the patient.

CHAPTER 38L

Multiple Choice Questions

1. b
2. d

CHAPTER 39L

Multiple Choice Questions

1. e
   Anaemia of chronic disease is by far the most common type of anaemia in elderly people, constituting around 15-35% of cases.

2. b
   There is a relative decrease in erythropoietin production in patients with anaemia of chronic disease. Inflammation through production of interleukin-6 and tumour necrosis factor–alpha decrease iron release from macrophages back to the circulation for red blood cell (RBC) production. RBC survival is mildly decreased to 80-90 days due to increased phagocytic capacity of the macrophages.

3. d
   Metformin may reduce ileal B12 absorption due to calcium-dependent ileal membrane antagonism. This effect can be corrected by administration of oral calcium supplements.

Data Interpretation

Variable	Anaemia of chronic disease	Fe deficiency anaemia
Fe	↓	↓
TIBC	→↓	↑
Fe / TIBC	↓	↓
Ferritin	→↑	↓
Cytokine level	↑	→

Abbreviations: Fe = iron; TIBC = total iron-binding capacity

Case Scenario

Possible causes:

- Untreated *Helicobacter pylori* infection and chronic gastritis
- Non-compliance with medication
- Continued blood loss
- High gastric pH that inhibits iron absorption
- Inhibition of iron absorption / utilisation, e.g. lead, chronic inflammation, neoplasm
- Incorrect diagnosis, e.g. thalassaemia, sideroblastic anaemia

CHAPTER 40L

Multiple Choice Questions

1. b
2. e
3. b
4. d

CHAPTER 41L

Multiple Choice Questions

1. c
2. d
3. c

CHAPTER 42L

Multiple Choice Questions

1. c
2. e

Case Scenario

(a) Herpes zoster over a right thoracic dermatome predisposed by prednisolone use and age-related immunodysfunction. Adjust (reduce) anti–herpes zoster drug dosage for her impaired renal function.

(b) Her low Mini-Mental State Examination score of 10/30 for this admission may be accounted for by: deafness, distress by zoster pain and restraint, cognitive decline / depression from subclinical hypothyroidism.

(c) Calcium carbonate reduced thyroxine absorption (thus the two medication have to be separately taken at pm and om respectively), prednisolone suppresses thyroid-stimulating secretion.

(d) Probable causes of her subclinical hypothyroidism for this admission: non-compliance to prescribed thyroxine due to cognitive decline and breakdown of drug supervision, interference of thyroxine absorption by calcium carbonate, inadequate thyroxine replacement dose. The thyroxine replacement dosage may gradually increase over years in patients with progressive thyroid destruction caused by autoimmunity (see [e] below on probable autoimmune aetiology of primary hypothyroidism in this patient).

(e) A serial plot of her thyroid function from December 2010 to September 2017 is shown in Figure 42L.1.

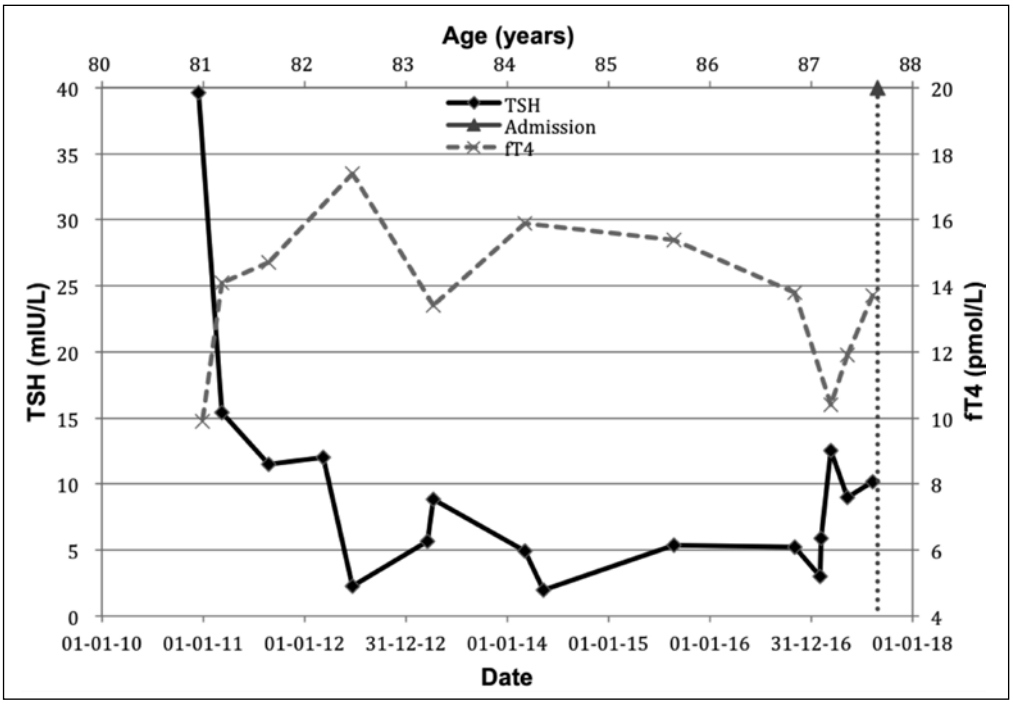


Figure 42L.1.
Abbreviations: fT4 = free T4; TSH = thyroid-stimulating hormone

For 2010: primary hypothyroidism with cognitive impairment and depression as neuropsychiatric presentations in this woman. Primary hypothyroidism is an important cause of reversible dementia and depression not to miss and requires early recognition and adequate treatment for reversibility. Both the primary hypothyroidism and vitamin B_{12} deficiency in this woman are probably autoimmune in aetiology, but autoantibodies have not been checked in her. Adequate high dose oral B_{12} replacement has to be given for autoimmune B_{12} deficiency (pernicious anaemia) and parenteral B_{12} is advised for those with neurological manifestations. In this woman, the depression (labelled as prolonged grief) and dementia (labelled as late onset Alzheimer's disease) illness is treated in psychiatric clinic, while her hypothyroidism is treated at general outpatient clinic. Impaired cognition and social isolation from 2010 to 2013 resulted in questionable compliance to thyroxine replacement (evidenced from Figure 42L.1 showing the raised thyroid-stimulating hormone [TSH] > 5 mIU/L during most of this period). After reinforcement of drug compliance by day care centre attendance and children visits, her thyroid status improved from 2014 to 2016 (Figure 42L.1). Review of her electronic record also showed improving MMSE scores in 2014: 16/30 (January 2014), 17/30 (May 2014), and 18/30 (December 2014).

For this admission, her deafness, cognitive worsening, and impaired renal function can be explained by her biochemical finding of subclinical hypothyroidism, likely due to inadequate thyroxine replacement for her primary hypothyroidism. Bradycardia may not be evident in her because of distress from zoster pain and restraint. Figure 42L.1 shows that she has hypothyroidism to subclinical hypothyroidism in 2017. Studies have shown that inadequate thyroxine replacement resulting in biochemically defined subclinical hypothyroidism is associated with decline in working memory and mood.[1] Some studies have also shown improvement in memory function after treatment with thyroxine for subclinical hypothyroidism.[2,3]

References

1. Samuels MH, Schuff KG, Carlson NE, Carello P, Janowsky JS. Health status, mood, and cognition in experimentally induced subclinical hypothyroidism. J Clin Endocrinol Metab 2007;92:2545-51.
2. Correia N, Mullally S, Cooke G, et al. Evidence for a specific defect in hippocampal memory in overt and subclinical hypothyroidism. J Clin Endocrinol Metab 2009;94:3789-97.
3. Aghili R, Khamseh ME, Malek M, et al. Changes of subtests of Wechsler Memory Scale and cognitive function in subjects with subclinical hypothyroidism following treatment with levothyroxine. Arch Med Sci 2012;8:1096-101.

(f) Risk factors for fall in her are: hypothyroidism, dementia, vitamin B_{12} deficiency, steroid, antihypertensives (she has history of hospitalisation for symptomatic hypotension in March 2017 and antihypertensives were resumed at the general outpatient clinic; her usual home blood pressure may be lower than the hospital record of 120/60 mm Hg when she is not in distress from restraint and pain), antidepressants.[1,2]

References

1. Darowski A, Chambers S-ACF, Chambers DJ. Antidepressants and falls in the elderly. Drugs Aging 2009;26:381-94.
2. Coupland C, Dhiman P, Morriss R, Arthur A, Barton G, Hippisley-Cox J. Antidepressant use and risk of adverse outcomes in older people: population based cohort study. Br Med J 2011;343:d4551.

(g) The supposedly surgical nature of her admission (surgical abdominal pain, rib fracture) was not substantiated after careful assessment and examination. She is best managed in an elder-friendly ward under the care of a geriatrician-led interdisciplinary team assessment and management with holistic and rehabilitative approach. Collateral history from her children and day care centre, and home support team can help to clarify changes in her mental and physical function, any defaults in day care attendance, or break down in drug supervision and non-compliance to drugs. She is at risk of polypharmacy: in addition to three drugs from psychiatric clinic and three drugs from general outpatient clinic, four more drugs are added since May 2017 for the recent diagnosis of pemphigoid at dermatology clinic; making a total of 10 drugs for her to take, increasing the likelihood of inaccurate drug taking given her impaired communication (due to deafness) and impaired cognition. Geriatrician with knowledge of her frailty and complexity, and reduced metabolic drug clearance from hypothyroid state would optimise her medication with appropriate dosages by weighing risk (falls, osteoporosis, immunosuppression) against benefits (normalisation of her thyroid function to improve cognition and mood, optimisation of her blood pressure control without overtreatment, reduction of herpes zoster neuralgia, control of her pemphigoid with tail-off course of prednisolone); as well as organise community support network to monitor drug taking and provide essential personal care support and fast-track consultation response as needed. Should her cognitive function further decline despite adequate thyroxine replacement, encephalitic complication from herpes zoster has to be born in mind given that she is on immunosuppressant (prednisolone).

Journal Reading

1. Although some experts prefer initiating levothyroxine at a low dose and titrating up slowly for all elderly people, some are of the opinion that levothyroxine can be initiated at full dose in elderly people without cardiac disease. Since elderly patients are at higher risk of atrial fibrillation and osteoporotic fracture, it is important to avoid over replacement. In general, for persons older than 70 years, the target thyroid-stimulating hormone (TSH) level is 4-6 mIU/L, while maintaining a normal or low normal free T4 level.
2. In Graves' disease, radioactive iodine, antithyroid medication, and thyroidectomy are appropriate treatment modalities. In toxic multinodular goitre, the choice of treatment is either radioactive iodine or surgery, as medical therapy does not induce remission in such cases. The choice is based on patient preference and presence of indications or contraindications to each treatment option. For example, surgery is recommended if associated with symptomatic compression or when thyroid malignancy is suspected. In elderly people with a limited life expectancy, at high surgical risk, or resident in nursing homes where compliance with radiation safety regulations is difficult, medical therapy may be the best choice. In such cases, lifelong low-dose antithyroid medication may be required in patients with toxic multinodular goitre.
3. There is no strong evidence for the benefits of treating subclinical hyperthyroidism. Nonetheless treatment is initiated more readily in older subjects than in younger subjects, because subclinical hyperthyroidism is related to an increased risk of atrial fibrillation, cardiac dysfunction, cardiovascular and overall mortality, decreased bone mineral density, and decreased quality of life and cognition. The treatment decision should be guided by TSH level, underlying aetiology, and clinical risk factors such as atrial fibrillation and osteoporosis. For example, a wait-and-see approach can be adopted if TSH level is 0.1-0.4 mIU/L in the absence of atrial fibrillation or osteoporosis. Treatment should be considered if TSH level is <0.1 mIU/L or in patients with Graves' disease, as progression to overt hyperthyroidism is more likely.

CHAPTER 43L

Multiple Choice Questions

1. c
2. e
3. e
4. b

CHAPTER 44L

Multiple Choice Questions

1. c
2. d

Case Scenario

(a) The wound is not likely to be infected despite showing no signs of healing for 2 weeks. Surface swabs should not be used for diagnosis. Tissue biopsy or quantitative swab technique can be used but it is seldom required in clinical practice. Usually, wound infection is diagnosed clinically without further bacteriological diagnosis. The other clinical features of wound infection include presence of friable granulation tissue, foul odour, increased pain in the ulcer, increased heat in the tissue surrounding the ulcer, increased drainage from the wound, an ominous change in the nature of wound drainage, increased necrotic tissue in the wound bed, pocketing, or bridging.

(b) Systemic antibiotics are not required even for the treatment for local wound infection. These should only be considered when there is clinical evidence of systemic infection such as positive blood cultures, cellulitis, fasciitis, osteomyelitis, systemic inflammatory response syndrome, or sepsis.

(c) Apart from wound infection, there are many other factors that could cause the sacral sore to increase in size like poor nutrition, excessive moisture due to urine and faecal contamination, presence of shearing force due to elevation of the bed above 30° or sliding from the chair, poor diabetic control, anaemia, hypoxaemia, and hypotension.

(d) Advice includes:
- Avoid shearing force by avoiding elevation of the bed above 30° and sliding from the chair by appropriate alignment and support.
- Increase calorie and protein intake.
- Faecal and urinary incontinence are most harmful in the sacral area. A bowel routine or external collection device, or urinary catheter should be considered. Prompt changing of wet underwear or diapers is also required.
- Correction of hyperglycaemia, anaemia, hypoxaemia, and hypotension.

The Hong Kong Geriatrics Society
香港老人科醫學會

The Hong Kong Geriatrics Society Curriculum in Geriatric Medicine

Learning Manual

The Hong Kong Geriatrics Society
www.hkgs.org

ISBN 978-988-78347-1-7

ISBN 9789887834717