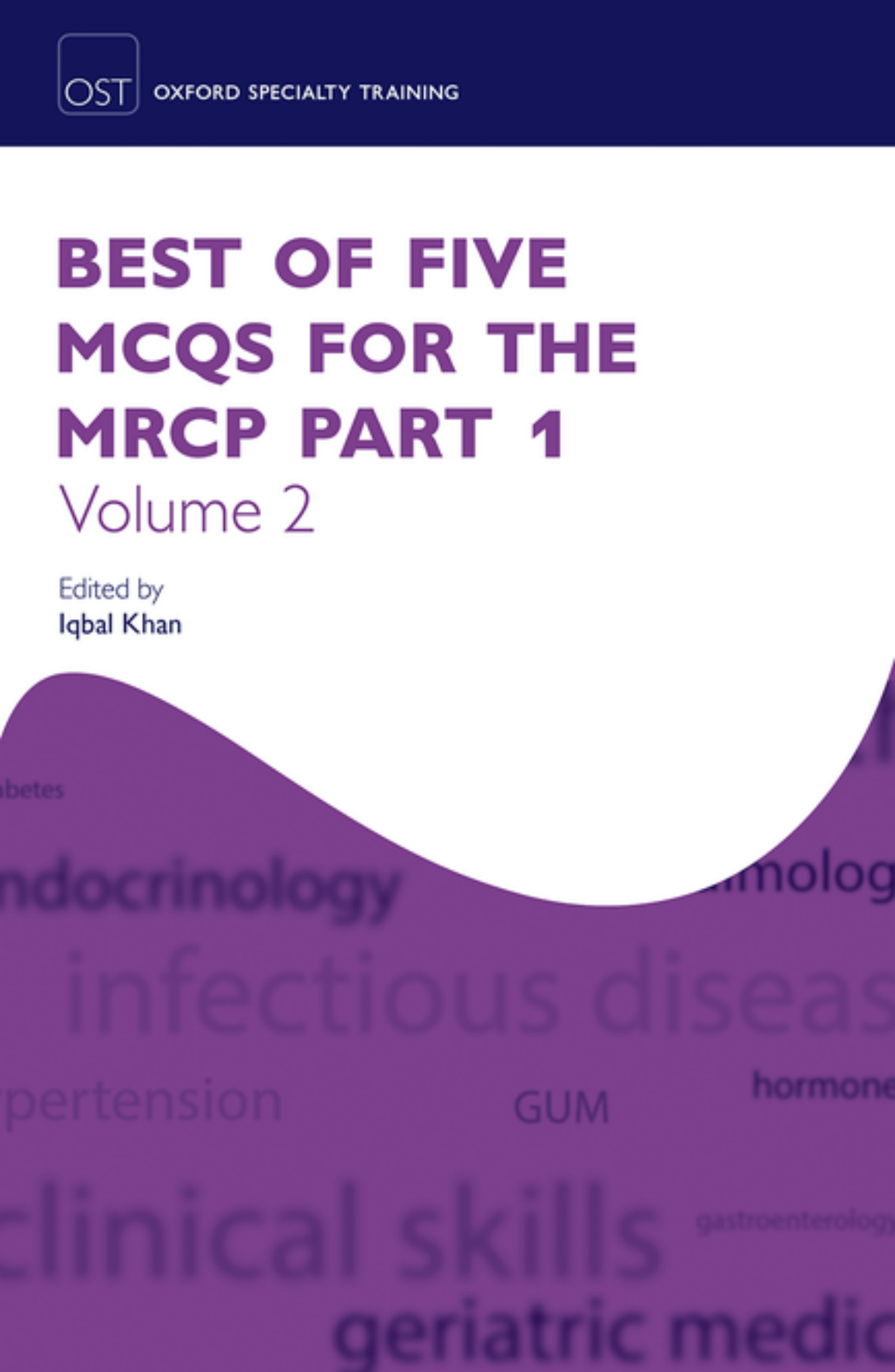
OST
OXFORD SPECIALTY TRAINING
BEST OF FIVE MCQS FOR THE MRCP PART 1
Volume 2
Edited by
Iqbal Khan
ndocrinology
infectious
pertension
GUM
hormone
clinical skills
geriatric

Best of Five MCQs for the MRCP Part 1

Volume 2

Best of Five MCQs for the MRCP Part 1

Volume 2

Edited by

Iqbal Khan

Consultant Gastroenterologist and Associate Director of Undergraduate Education, Northampton General Hospital, Northampton, UK

OXFORD
UNIVERSITY PRESS

OXFORD
UNIVERSITY PRESS

Great Clarendon Street, Oxford, OX2 6DP,
United Kingdom

Oxford University Press is a department of the University of Oxford.
It furthers the University's objective of excellence in research, scholarship,
and education by publishing worldwide. Oxford is a registered trade mark of
Oxford University Press in the UK and in certain other countries

First Edition published in 2017

Impression: 1

Published in the United States of America by Oxford University Press
198 Madison Avenue, New York, NY 10016, United States of America

British Library Cataloguing in Publication Data

Data available

Library of Congress Control Number: 2016945122

Set ISBN 978–0–19–878792–1
Volume 1 978–0–19–874672–0
Volume 2 978–0–19–874716–1
Volume 3 978–0–19–874717–8

Printed in Great Britain by
Clays Ltd, St Ives plc

PREFACE

The Membership of the Royal College of Physicians (MRCP) is a mandatory exam for trainees in the UK intending to enter a career in a medical speciality. The MRCP exam has three parts: MRCP Part 1 (written paper); MRCP Part 2 (written paper); and MRCP Part 2 Clinical Examination (PACES).

The MRCP (UK) Part 1 Examination is designed to assess a candidate's knowledge and understanding of the clinical sciences relevant to medical practice and of common or important disorders to a level appropriate for entry to specialist training. Candidates must sit two papers, each of which is three hours in duration and contains 100 multiple choice questions in 'best of five' format. These are designed to test candidates' core knowledge, the ability to interpret information, and clinical problem solving. The MRCP Part 1 requires a huge breadth of information to be revised.

Whilst books and resources are available, there is a huge variation in the number and quality of practice questions available. Online revision websites can be very expensive and impractical for busy junior doctors in clinical posts. These three volumes have been written with these busy junior doctors in mind and are designed to be studied one volume at a time. The three volumes together cover the full syllabus of the MRCP part 1 exam, and the number of questions per speciality is proportional to that seen in the exam. It is suggested that doctors preparing for the exam should carry one of the books into work each day and use every opportunity to study, even if it is for brief intervals. When time permits a more detailed review of the subject should take place to ensure full understanding of each topic.

The questions have been written and reviewed by experts in their respective fields and I would like to use this opportunity to thank each and every one of the for their excellent contributions.

Iqbal Khan

CONTENTS

ABBREVIATIONS

µmol/L	micromoles per litre
A&E	Accident and Emergency
ABG	arterial blood gas
ACE	angiotensin-converting enzyme
ACTH	adrenocorticotropic hormone
ADH	alcohol dehydrogenase
ADP	aminolaevulinic acid dehydratase porphyria
AGA	antigliadin antibody
AHO	Albright's hereditary osteodystrophy
AIDS	acquired immune deficiency syndrome
AIP	acute intermittent porphyria
Alb	albumin
ALP	alkaline phosphatase
ALT	alanine aminotransferase
AMA	anti-mitochondrial antibody
anti-HBc	anti-hepatitis B core
anti-HBe	anti-E antigen
anti-HBs	anti-hepatitis B surface
AST	aspartate aminotransferase
BCG	bacille Calmette–Guérin
BD	bis in die
Beta-HCG	Beta-human chorionic gonadotropin
BHH	benign hypocalciuric hypercalcemia
BHIVA	British HIV Association
BM	blood glucose monitoring
BMI	body mass index
BNF	British National Formulary
BNP	B-type natriuretic peptide
BP	blood pressure; bullous pemphigoid

bpm	beats per minute
Ca_2	calcium
CDAD	Clostridium difficile-associated diarrhoea
CDI	Clostridium difficile-associated infection
CEP	congenital erythropoietic porphyria
CIN	cervical intraepithelial neoplasia
CL	cutaneous leishmaniasis
CNS	central nervous system
CO_2	carbon dioxide
COPD	chronic obstructive pulmonary disease
Cr	creatinine
CRA	central retinal artery
CRP	C-Reactive Protein
CSF	cerebrospinal fluid
CT	computed tomography
CTPA	CT pulmonary angiography
CXR	chest X-ray
DCL	diffuse cutaneous leishmaniasis
DCCT	Diabetes Control and Complications Trial
DDAVP	desmopressin acetate (1-deamino-8-D-arginine vasopressin)
DEXA	dual energy X-ray absorptiometry
DI	diabetes insipidus
DIDMOAD	diabetes insipidus, diabetes mellitus, optic atrophy, and deafness
DKA	diabetic ketoacidosis
DNA	deoxyribonucleic acid
DRESS	drug rash, eosinophilia, and systemic symptoms
DVT	deep vein thrombosis
ECCO	European Crohn's and Colitis Organisation
ELISA	enzyme-linked immunosorbent assay
EM	erythema multiforme
EMA	endomysial antibody
ERCP	endoscopic retrograde cholangiopancreatogram
ESR	erythrocyte sedimentation rate
ETEC	enterotoxigenic E. coli
FAP	familial adenomatous polyposis
FBC	full blood count

FDA	Food and Drug Administration
FHH	familial hyocalciuric hypocalcaemia
FNA	fine-needle aspiration
FNA	fine-needle aspiration biopsy
FSH	follicle stimulating hormone
FVC	forced vital capacity
GBS	Guillain–Barré syndrome
GCS	Glasgow Coma Scale
g/dL	grammes per decilitre
GFD	gluten-free diet
GFR	glomerular filtration rate
GI	gastrointestinal
g/l	gramme per litre
GGT	gamma-glutamyl transferase
GORD	gastro-oesophageal reflux disease
GP	general practitioner
GVHD	graft versus host disease
HAART	highly active anti-retroviral therapy
HACEK	Haemophilus, Aggregatibacter (previously Actinobacillus), Cardiobacterium, Eikenella, Kingella
Hb	haemoglobin
HBeAg	hepatitis B E antigen
HBIg	hepatitis B immune globulin
HBsAg	hepatitis B surface antigen
HBV	hepatitis B virus
HCC	hepatocellular carcinoma
hCG	human chorionic gonadotropin
HH	hereditary haemochromatosis
HHT	hereditary haemorrhagic telangiectasia
HIV	human immunodeficiency virus
HLA	human leukocyte antigen
HNPCC	hereditary non-polyposis colon cancer
HPV	human papilloma virus
HR	heart rate
HRS	hepatorenal syndrome
HTN	hypertension
HUS	haemolytic uremic syndrome

IBD	inflammatory bowel disease
IBS	irritable bowel syndrome
IE	infective endocarditis
IgA	immunoglobulin A
IgD	immunoglobulin D
IgG	Immunoglobulin class G
IgM	immunoglobulin M
IM	intramuscular
INR	international normalized ratio
ITP	idiopathic thrombocytopenic purpura
ITU	intensive treatment unit
IU/L	international unites per litre
IU/ml	international units per millimetre
IV	intravenous
IVIg	intravenous immunoglobulin
JVP	jugular venous pressure
K	potassium
kg	kilogramme
KPa	kilo Pascal
LAD	left anterior descending coronary artery
LDH	lactate dehydrogenase
LFT	liver function test
LH	luteinizing hormone
LKM	liver-kidney microsomal antibody
LP	lichen planus
mcg/l	microgram per litre
MCA	middle cerebral artery
MCL	mucocutaneous leishmaniasis
MCV	mean corpuscular volume
MEN-1	multiple endocrine neoplasia type 1
MEN-2	multiple endocrine neoplasia type 2
mg	milligramme
MI	myocardial infarction
micromole/l	micromoles per litre
mmHg	millimetres of mercury (torr)
mmol/l	millimoles per litre

mOsm/kg	milliosmole per kilogram
MRCP	magnetic resonance cholangiopancreatography
MRI	magnetic resonance imaging
MRSA	methicillin-resistant Staphylococcus aureus
ms	milliseconds
MSU	midstream urine sample
MU	million units
MU/l	million units per litre
NA	sodium
NAFLD	non-alcoholic fatty liver disease
NASH	non-alcoholic steatohepatitis
NF-1	neurofibromatosis type 1
ng/ml	nanogrammes per millilitre
NMDA	N-methyl-d-aspartate
nml/l	nanomole per litre
NNRTI	non-nucleoside reverse transcriptase inhibitor
NRTI	nucleoside reverse transcriptase
NSAID	nonsteroidal anti-inflammatory drug
O_2	oxygen
od	omni die
OGD	oesophago-gastro- duodenoscopy
PA	plasma aldosterone
PaO_2	potential oxygen
PAS	periodic acid-Schiff
PBC	primary biliary cirrhosis
PCR	polymerase chain reaction
PCT	porphyria cutanea tarda
PDGFR	platelet derived growth factor receptor
PE	pulmonary embolism
PET	positron emission tomography
PG	pyoderma gangrenosum
pg/l	picogramme per litre
pH	potential hydrogen
PI	protease inhibitor
PITS	parietal inferior, temporal superior
PLT	primed lymphocyte test

PML	progressive multifocal leukoencephalopathy
pmol/l	picomole per litre
pO_2	potential oxygen
PPI	proton pump inhibitor
PR	by rectum
PSC	primary sclerosing cholangitis
PT	prothrombin time
PTH	parathyroid hormone
PV	pemphigus vulgaris
PVL	Panton–Valentine Leukocidin
QDS	quater die sumendum
RNA	ribonucleic acid
RPR	rapid plasma reagin
RT	Riedel's thyroiditis
SAA	serum amyloid A
SCC	squamous cell carcinoma
SeHCAT	selenium-homocholic acid taurine
SIADH	syndrome of inappropriate antidiuretic hormone
SIRS	systemic inflammatory response syndrome
SLE	systemic lupus erythematosus
SST	short synacthen test
TB	tuberculosis
TDS	ter die sumendum
TEN	toxic epidermal necrolysis
TIPSS	transjugular intrahepatic portosystemic shunt insertion
TNF	tumour necrosis factor
TNM	tumor-node-metastasis
TPHA	treponema pallidum haemagglutination assay
TPMT	thiopurine methyltransferase
TSH	thyroid stimulating hormone
tTG	tissue tranglutaminase
U&E	urea and electrolytes
U/l	units per litre
UC	ulcerative colitis
USS	ultrasound scan
VAP	ventilator-associated pneumonia

VDRL	Venereal Disease Research Laboratory
VHL	Von Hippel–Lindau disease
VLCFA	very long chain fatty acids
WBC	white blood cell count
WCC	white cell count
XLDPP	X-linked dominant protoporphyria
ZE	Zollinger–Ellison

1 DERMATOLOGY

QUESTIONS

1. A 52-year-old man presents to the clinic for review some six weeks after starting phenytoin for complex partial seizures. He is very concerned as he has a rash which began on his face but quickly spread over the upper body. It begins as large, painful macules, but the top layer of skin sheds to reveal very moist raw skin underneath. He has a temperature of 37.8°C, and a BP of 135/70 mmHg; the remainder of his examination is normal. Investigations: Hb 13.2, WCC 8.2 (Eosinophilia), PLT 181, Na 138, K 4.2, Cr 130. Which of the following is the most appropriate treatment?

A. Topical steroids
B. Systemic corticosteroids
C. Stop phenytoin
D. Oral flucloxacillin
E. Topical fucidin

2. A 62-year-old woman presents to the clinic with painful eyes and blurring of vision. She has also been suffering from increasing mouth ulcers over the past few months. On examination she has multiple mouth ulcers and evidence of gingivitis. Slit lamp examination reveals evidence of corneal scarring. There are no significant skin rashes. Investigations: Hb 13.0, WCC 8.1, PLT 191, Na 137, K 4.2, Cr 124. Which of the following is the most likely diagnosis?

A. Pemphigus
B. Bullous pemphigoid
C. Behcet's syndrome
D. Occular ciccatrical pemphigoid
E. Anterior uveitis

3. Koebner phenomenon is encountered in which of the following conditions?

A. Lupus vulgaris
B. Pitryasis rosea
C. Lichen planus
D. Erythema nodosum
E. Squamous cell carcinoma of the skin

4. A 39-year-old woman presents to the clinic with an erythematous rash below her umbilicus and around her left wrist. She admits to wearing a cheap fashion watch and wearing a belt with a metal buckle. You suspect nickel allergy. Which of the following hypersensitivity reactions is likely to have occurred?

A. Type 1
B. Type 2
C. Type 3
D. Type 4
E. Type 5

5. A 26-year-old woman comes to the clinic with her partner. They both have mild inherited ichthyosis vulgaris, they met via patient support group, and want to start a family. Which of the following is factually correct with regards to inheritance of the condition?

A. There is a 75% chance any offspring will have clinically significant disease
B. There is a 25% chance that any offspring will not be affected by the disease and will not be a carrier of the mutation
C. There is a 50% chance that any offspring will not have clinically significant disease
D. There is a 100% chance that any offspring will be free of the disease
E. There is a 100% chance that any offspring will be affected by the disease

6. A 60-year-old lady feels that her nails have not grown over the last six months. Her hands are shown in Figure 1.1. She gets mildly breathless on exertion, but is otherwise well. Examination of the cardiorespiratory system and abdomen reveals bilateral ankle oedema, but no other abnormalities. Select the most appropriate initial investigation.

A. Abdominal ultrasound scan
B. Chest radiograph
C. Computed tomography scan of thorax, abdomen, and pelvis
D. Electrocardiogram
E. Transthoracic ECHO

Figure 1.1 Patient's hands

7. You notice a solitary pigmented lesion on the back of a 68-year-old man, whilst examining his respiratory system (see Figure 1.2). He has been admitted for a suspected exacerbation of chronic obstructive pulmonary disease, but is otherwise well. What is the most appropriate initial management?

A. Computed tomography staging scan
B. Punch biopsy
C. Reassure him that it is harmless
D. Urgent referral to oncology to consider radiotherapy
E. Urgent excision

Figure 1.2 Solitary pigmented lesion

8. An 80-year-old lady is admitted following a fall. She is febrile at 38.1°C. Examination of the cardiorespiratory and nervous systems reveals no gross abnormality. An enlarged spleen is detected on abdominal examination. She is also noted to have several plum-coloured plaques scattered on the trunk and limbs. Her initial bloods show anaemia and thrombocytopenia, but a mild neutrophilia. Select the likeliest diagnosis.

A. Acute Epstein–Barr virus infection
B. Pyoderma gangrenosum
C. Sarcoidosis
D. Sweet's syndrome
E. Urinary tract infection with exanthem

9. A 43-year-old lady presents with a 4-week history of a non-itchy rash on the face. She has been systemically well and denies other symptoms. She has mild asthma which is well controlled on treatment. She describes Raynaud's phenomenon which occurs occasionally in winter. Examination reveals a symmetrical eruption on the central face, involving the nose, medial cheeks, with a few lesions on the forehead and chin. The eruption is comprised of erythematous papules, with a few pustules and some macular erythema. There is no scaling. Select the likeliest diagnosis.

A. Acne vulgaris
B. Chronic cutaneous (discoid) lupus erythematosus
C. Malar rash of systemic lupus erythematosus
D. Rosacea
E. Seborrhoeic dermatitis

10. A 24-year-old woman who works as a hairdresser is referred with a six-month history of a rash on the hands. Examination reveals dryness, scaling, and vesicles, worse on the palmar surfaces. Select the most appropriate investigation.

A. Bacterial and viral swabs
B. Patch tests
C. Prick tests
D. Skin biopsy
E. Specific IgE tests

11. A 33-year-old man is concerned by the development of some mildly itchy, warty papules on the central chest and behind the ears. He is also noted to have nail dystrophy. He says that his father has similar problems. Select the likeliest diagnosis.

A. Darier's disease
B. Hailey–Hailey disease
C. Lichen planus
D. Seborrhoeic keratoses
E. Viral warts

12. A 16-year-old boy presents with a red, scaly rash. The differential diagnosis is thought to lie between eczema and psoriasis. Which one of the following would favour the diagnosis of eczema?

A. Genital involvement
B. Hyperlinear palms
C. Koebner phenomenon
D. Onycholysis
E. Well-demarcated areas of involvement

13. A 30-year-old woman is referred with an eruption confined to the ankles and wrists. Which of the following features would most support a diagnosis of lichen planus?

A. Raynaud's phenomenon
B. Scaly plaques
C. Scarring
D. Soreness rather than pruritus
E. Violaceous papules

14. A 70-year-old man is seen with a three-day history of suspected maculopapular drug exanthem. He remains well in himself, though he was recently discharged from the rehabilitation ward following a stroke. During his admission, he suffered from two seizures and a urinary tract infection. He has a previous history of gout. His drug history is as follows: allopurinol for five years; amlodipine for three years; aspirin for five weeks; simvastatin for five weeks; perindopril for five weeks; phenytoin for four weeks; seven-day course of trimethoprim which ended seven days ago. Select the likeliest culprit drug.

A. Allopurinol
B. Aspirin
C. Perindopril
D. Phenytoin
E. Trimethoprim

15. A 58-year-old man presents with a five-day history of a rapidly extending eruption, characterized by scaling and erythema. He complains of feeling cold although his temperature is 37.1°C. Examination confirms that almost his entire skin surface is affected. He is tachycardic at 116 bpm; BP is 105/62. Which one of the following statements about erythroderma is correct?

A. A skin biopsy should be taken to exclude toxic epidermal necrolysis
B. Erythroderma means a rash covering the majority of the skin surface area
C. Erythrodermic patients should receive prophylactic antibiotics
D. High output cardiac failure is a potential complication
E. The commonest cause is mycosis fungoides

16. You are reviewing a patient with Crohn's disease in the clinic. He has had multiple flare-ups over the last year, requiring several courses of steroids, despite taking asacol (5-ASA) continuously. You wish to start him on azathioprine therapy. Which single blood test is essential prior to starting azathioprine?

A. Iron studies
B. TPMT level (thiopurine methyltransferase)
C. Folic acid levels
D. G6PD level (glucose-6-phosphate dehydrogenase)
E. High density lipoprotein level

17. Which of the following skin lesions is not associated with diabetes mellitus?

A. Acanthosis nigricans
B. Necrobiosis lipoidica
C. Lipohypertrophy
D. Eruptive xanthomata
E. Erythema nodosum

18. Which of the following statements regarding bullous pemphigoid is correct?

A. Bullae are intra-epidermal
B. Direct immunofluoresence demonstrates linear deposits of IgG along the epidermal basement membrane zone
C. It is usually precipitated by alcohol
D. Extensor surfaces of the limbs are usually involved
E. Neutrophilia is usually seen

19. A 35-year-old woman is referred with a necrotic ulcer displaying a purple border on the lower leg. Which of the following conditions is most likely to be associated with the likely skin condition?

A. Type 2 diabetes mellitus
B. Ulcerative colitis
C. SLE
D. Rheumatoid arthritis
E. Pernicious anaemia

20. A 23-year-old woman presents to the clinic with diarrhoea suggestive of malabsorption, and weight loss of some 6 kg during the past three months. Her GP has checked some routine bloods and found her to be anaemic with a low albumin. In addition, she is anti-TTG antibody postiive. Which of the following skin changes is most likely to be seen?

A. Erythematous plaques with associated bullous lesions
B. Painful erythematous nodules on the lower leg
C. Vesicobullous eruption on the buttocks
D. Deep inflammatory fissures in the inguinal folds
E. Large ulcerated lesion with a violaceous border on the lower leg

21. A 64-year-old lady sustained a dog bite to the right hand four hours earlier. An empirical prophylaxis cover with antibiotic was deemed necessary as the wound was deep and required extensive toileting in the emergency room. Which of the following antibiotics is regarded most appropriate?

A. Flucloxacillin
B. Erythromycin
C. Penicillin
D. Co-amoxiclav
E. Tetracycline

22. A 63-year-old man presents with a three-month history of blistering on his face and hands. He feels that the skin on his hands has become thinner and is more easily traumatized than usual. He reports no systemic symptoms and has no significant past medical history. Examination reveals several erosions, scars from previous bullae, and milia formation. There is no mucous membrane involvement. Select the likeliest diagnosis.

A. Bullous impetigo
B. Bullous pemphigoid
C. Dermatitis herpetiformis
D. Pemphigus vulgaris
E. Porphyria cutanea tarda

23. A 32-year-old lady is referred with an eruption on the hands. Apart from a cold sore on the lip, she has otherwise been well. Examination reveals discrete erythematous lesions on the palms, each with central blistering and two surrounding concentric rings of different hues. Select the most likely diagnosis.

A. Bullous pemphigoid
B. Erythema multiforme
C. Nodular vasculitis
D. Pemphigus vulgaris
E. Secondary syphilis

24. A 35-year-old delivery driver attends the emergency department with an exacerbation of itching. He has been suffering from urticaria on most days for the last three months, for which his general practitioner has prescribed chlorphenamine 4 mg twice daily. He takes no other regular medication. He denies facial swelling, respiratory symptoms, and light-headedness. Examination reveals widespread weals. Select the most appropriate management plan.

A. Cetirizine 20 mg once daily
B. Chlorphenamine increased to 4 mg four to six times per day
C. Intramuscular adrenaline and intravenous chlorphenamine
D. Intravenous hydrocortisone
E. Prednisolone 30 mg once daily for five days

25. A 17-year-old girl presents to her GP with a generalized skin rash. She had been prescribed pencillin two weeks earlier for a streptococcal throat infection, but is concerned as she has begun a relationship with a new sexual partner a short while ago. On examination she is apyrexial and her throat looks normal now. She has multiple erythematous scaly plaques on her skin, however, ranging from a few mm to up to 10–15 mm in diameter. Which of the following is the most likely diagnosis?

A. Reiter's syndrome
B. Antibiotic allergy
C. Guttate psoriasis
D. Stevens Johnson syndrome
E. Rheumatic fever

26. A 25-year-old woman who has received a liver transplant after a paracetamol overdose comes to the clinic for review some two weeks after her transplant. She has begun to develop a painful maculopapular rash over both the palms of her hands and the soles of her feet and has been suffering from increasing diarrhoea. Investigations: haemoglobin 10.2 g/dl (11.5–16.5), white cells 5.1 x 10^9/l (4–11), platelets 149 x 10^9/l (150–400), sodium 138 mmol/l (135–146), potassium 3.9 mmol/l (3.5–5), creatinine 103 micromol/l (79–118), ALT 225 U/l (5–40), albumin 27 g/l (35–50). Which of the following is the most likely diagnosis?

A. Acute graft versus host disease
B. Chronic graft versus host disease
C. Sirolimus toxicity
D. Drug-induced psoriasis
E. Cyclosporin-related dermatitis