Multiple Choice Questions in General Pathology

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Foreword

In all the Primary Examinations for the various Colleges of Surgery throughout the United Kingdom, Ireland and the Commonwealth the ability to answer a multiple choice question paper is now an important part of the examination. Indeed in some Colleges, the candidate who is unable to deal with this type of question is eliminated without further examination.

The object of this text book is twofold. Firstly a number of prospective candidates for one of the first part examinations may desire to test both their knowledge and technique. They may also wish to time themselves against the clock in order to ascertain that their 'work rate' is satisfactory. In order to achieve this object approximately 300 questions governing the principles of general pathology have been arranged in groups of 20 in a random fashion. Secondly a candidate may wish not only to practise the technique of answering the multiple choice question paper but also to add to his knowledge. For this latter reason in the second part of the book, each answer, whether it be true or false, is accompanied by explanation.

The stimulus to write this book comes from our many years of examining candidates in General Pathology. Although it would be incorrect to suggest that this text is a substitute for a normal text book, by dividing the questions into a variety of important topics we have done our best to achieve a comprehensive cover of the subjects as a whole.

F. G. SMIDDY
J. TURK

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Preface

The Authors of this book have stimulated to compose its contents following our contact with innumerable candidates in the Primary Fellowship over the past six years. We have attempted to cover the broad outlines of principles of general pathology by dividing the book into a number of different sections. Those candidates who wish to use the book merely for self-assessment will find that the questions in the first part of the book have been arranged in random fashion and, although the answers are given, no explanation as to the reason why the answer is true or false has been indicated in this section.

In the second section of the book the questions are repeated together with the answers and the explanation of the correct answer has been given in some detail so that the candidate who is wishing to learn rather than merely to test his own ability is able to do so.

We hope that this book will be found helpful by the many candidates who face the hurdle of the Primary Fellowships.

Acknowledgements

It is with deep gratitude that the Authors acknowledge the great help given to them by Margaret Smith and Lynn Topham, our respective secretaries, who dealt with many aspects of the unfinished manuscript. It would also be impossible to ignore the unflagging labours of Mrs P. Docherty who was responsible for the major typographical work on the written manuscript. It would also be right and proper to acknowledge the stimulus which the examination of numerous candidates in the Primary Fellowship of Pathology gave us.

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Contents

Part 1: Random questions

Each group of 20 questions is followed by the answers.

16.6 Liquefaction associated with necrosis occurs after infarction of the:

1. heart
2. kidney
3. brain
4. liver
5. spleen

7.24 Cell mediated immunity involves the following mechanisms:

1. IgG
2. T-lymphocytes
3. Eosinophil leucocytes
4. Complement
5. Macrophages

16.1 The chief pathological changes of atherosclerosis are:

1. deposition of lipid in the smooth muscle cells of the intima
2. fragmentation of the internal elastic lamina
3. calcification
4. contraction of the vessel
5. collagen deposition

10.3 Pulmonary oedema may occur in patients suffering from:

1. head injuries
2. plague
3. right-sided heart failure
4. hypoproteinaemia
5. nematode infections

1.3 Old age is specifically associated with atrophic changes in:

1. bone
2. the kidneys
3. the bone marrow
4. the brain
5. the ovaries

14.14 The following tumours may produce hormones

1. Choriocarcinoma
2. Bronchial carcinoma
3. Fibroma of the ovary
4. Islet cell tumours of the pancreas
5. Chromophobe pituitary adenoma

16.4 Gangrene is necrosis together with

1. desiccation
2. colliquative necrosis
3. involvement of a limb
4. infection of the tissues with Gram-positive organisms
5. putrefaction

20.8 Hyperkalaemia commonly occurs

1. following severe burns
2. in Conn's syndrome
3. following glomerular necrosis
4. in the Zollinger–Ellison syndrome
5. in the carcinoid syndrome

21.1 Blood which is to be used for transfusion:

1. should be stored at −4°C
2. may need to be irradiated (1000r)
3. needs to be tested for complement content
4. may be used after storage for platelet replacement
5. should be stored in an acid anticoagulant

3.5 Hyperplasia of the lymphoid tissue is a prominent feature in the following conditions:

1. Toxoplasmosis
2. Leishmaniasis
3. Chronic dermatitis
4. Silicosis
5. Berylliosis

4.7 Pseudomembranous enterocolitis is caused by the following organisms:

1. *Clostridium sporogenes*
2. *Clostridium difficile*
3. *Streptococcus faecalis*
4. Penicillin resistant staphylococci
5. *Pseudomonas aeruginosa*

4.5 The virulence of bacteria is related to:

1. their number in the tissues
2. the production of toxins
3. their ability to produce spreading factors
4. their resistance to phagocytosis
5. decreased resistance of the host

23.7 The following are mainly intracellular parasites:

1. *Echinococcus granulosus*
2. *Leishmania donovani*
3. *Trypanosoma gambiense*
4. *Plasmodium vivax*
5. *Toxoplasma gondii*

3.11 The following metals cause epithelioid cell granulomas:

1. Beryllium
2. Chromium
3. Zirconium
4. Nickel
5. Iron

6.2 Primary union of a wound is associated with the following:

1. A lag phase
2. A demolition phase
3. A contractile phase
4. A proliferative phase
5. A maturation phase

17.18 Chronic myeloid leukaemia is associated with:

1. the presence of large numbers of myeloblasts in the peripheral blood
2. a very variable total white count
3. massive splenomegaly
4. lymph node enlargement
5. hepatomegaly

18.7 The plasma acid phosphatase concentration increases in:

1. Paget's disease (osteitis deformans)
2. idiopathic hypercalciuria
3. prostatic cancer
4. medullary carcinoma of the thyroid
5. rickets

7.16 Anaphylaxis:

1. develops 24 hours after the initial stimulus
2. causes an urticarial eruption
3. is produced by IgA antibody
4. causes eosinophilia
5. causes degranulation of basophils and mast cells

7.33 Graft versus host disease:

1. may follow bone marrow transplants
2. may follow blood transfusion
3. occurs in Hodgkin's disease
4. can be suppressed by tetracyclines
5. can be suppressed by cyclophosphamide

6.1 Wound healing is enhanced by the administration of:

1. cortisol
2. zinc
3. aldosterone
4. oxygen
5. vitamin C

Question number	*Answer*
16.6	1. F 2. F 3. T 4. F 5. F
7.24	1. F 2. T 3. F 4. F 5. T
16.1	1. T 2. T 3. T 4. F 5. T
10.3	1. T 2. T 3. F 4. F 5. F
1.3	1. T 2. T 3. T 4. T 5. T
14.14	1. T 2. T 3. F 4. T 5. T
16.4	1. F 2. F 3. F 4. F 5. T
20.8	1. T 2. F 3. T 4. F 5. F
21.1	1. F 2 T 3. F 4. F 5. T
3.5	1. T 2. F 3. T 4. F 5. F
4.7	1. F 2. T 3. F 4. T 5. F
4.5	1. F 2. T 3. T 4. T 5. F
23.7	1. F 2. T 3. F 4. T 5. T
3.11	1. T 2. F 3. T 4. F 5. F
6.2	1. T 2. T 3. F 4. T 5. T
17.18	1. F 2. T 3. T 4. F 5. T
18.7	1. F 2. F 3. T 4. F 5. F
7.16	1. F 2. T 3. F 4. T 5. T
7.33	1. T 2. T 3. F 4. F 5. T
6.1	1. F 2. T 3. F 4. T 5. T

12.11 The following coagulation factors are generated in the liver:

1. Factor II
2. Factor IV
3. Factor VI
4. Factor IX
5. Factor X

16.5 Infarction may occur as a complication in the following diseases:

1. Atherosclerosis
2. Monckeberg's sclerosis
3. Benign hypertension
4. Sickle-cell anaemia
5. Idiopathic thrombocytopenic purpura

10.4 Amyloid is deposited most frequently in:

1. liver
2. brain
3. spleen
4. lungs
5. kidneys

7.14 Immune complex disease may be associated with:

1. hepatitis B infection
2. skin graft rejection
3. Henoch–Schönlein disease
4. meningococcal infection
5. penicillin therapy

18.4 Primary thyrotoxicosis is always accompanied by:

1. increased iodine uptake by the gland
2. a raised protein bound iodine
3. exophthalmos
4. hypercalcaemia
5. pernicious anaemia

7.3 Bence–Jones proteins are:

1. the heavy chains of immunoglobulins
2. found in the urine in multiple myeloma
3. associated with a monoclonal gammopathy
4. found in the urine in Waldenström's macroglobulinaemia
5. precipitated by boiling

7.30 Which of the following tests may be used to assess host resistance to mycobacterial infections:

1. Skin tests
2. Complement fixation
3. Lymphocyte transformation test
4. Radio immuno-assay
5. Leucocyte migration inhibition test

12.2 Haemolytic jaundice is associated with:

1. an increase in the concentration of bilirubin diglucuronide in the bile
2. the presence of bilirubin in the urine
3. an increase in the serum alkaline phosphatase
4. a decrease in unconjugated bilirubin in the serum
5. an increase in urobilinogen in the urine

7.1 The following substances normally act as antigens, i.e. stimulate antibody production, when administered to humans:

1. Dextrans with a molecular weight below 150 000
2. Bovine insulin
3. Extracts of Primula
4. Human thyroglobulin
5. Rh.D antigen

12.8 Gall stones are associated with the following diseases:

1. Viral hepatitis
2. Cirrhosis of the liver
3. Haemolytic jaundice
4. Obesity
5. Raised serum triglycerides

22.4 The following are immunosuppressive drugs:

1. Azathioprine
2. Indomethacin
3. Oxyprenolol
4. Cyclophosphamide
5. Chlorpropamide

23.2 The 'sick cell syndrome' is associated with:

1. cardiac failure following surgery or trauma
2. failure of the sodium pump
3. a rise in the urinary sodium excretion
4. apathy
5. intracellular oedema

17.14 The following biochemical changes occur in pernicious anaemia:

1. A raised serum vitamin B_{12}
2. A normal serum folate
3. A raised serum bilirubin
4. An increased alkaline phosphatase
5. A decreased plasma copper

5.8 Antibiotics which inhibit the synthesis of mucopeptide in the wall of a bacterium include:

1. cycloserine
2. cephalosporins
3. neomycin
4. penicillin and its semisynthetic derivatives
5. erythromycin

10.7 The essential constituents of amyloid include:

1. immunoglobulins
2. complement
3. albumin
4. starch
5. fibrils

6.8 Woven bone is found:

1. in bone forming in a model of cartilage
2. in fracture haematomas
3. in bones forming in sheets of differentiating mesenchyme
4. replacing lamellar bone in healing fractures
5. surrounding the ends of ununited fractures