

- 1 Functions of endothelial cells include all the following EXCEPT**
- A Formation of von-Willebrand factor
 - B Formation of collagen and proteoglycans
 - C Formation of IL1, IL6, IL8
 - D Formation of histamine
 - E Oxidation of LDL
- 2 Response to vascular injury is characterised by**
- A Smooth muscle cell migration from media to adventitia
 - B Reduced synthesis of extracellular matrix
 - C Shift from contractile to proliferative-synthetic phenotype
 - D Intimal thinning
 - E Reduced healing response
- 3 Atheromatous plaque has all the following features EXCEPT**
- A Covering fibrous cap
 - B Lipid core within the media
 - C Greater involvement of the abdominal aorta than the thoracic aorta
 - D Eccentric lesions rather than circumferential lesions
 - E Intracellular and extracellular lipid deposits
- 4 Major risk factors for atherosclerosis include all of the following EXCEPT**
- A Obesity
 - B Hyperlipidaemia
 - C Diabetes
 - D Smoking
 - E Hypertension
- 5 The most common cause of secondary hypertension is**
- A Renal disease
 - B Pheochromocytoma
 - C Coarctation of the aorta
 - D Pregnancy
 - E Stress

6 Concerning the pathogenesis of essential hypertension

- A Genetic factors are not important
- B Single-gene disorders are a major factor
- C Stress is not thought to be a relevant environmental factor
- D Defects in renal sodium homeostasis is a favoured hypothesis
- E Decreased sodium excretion results in reduced circulating fluid volume

7 Concerning aneurysms

- A Aneurysms most commonly occur in the peripheral vasculature
- B The haematoma within a false aneurysm does not communicate with the vascular space
- C Mycotic aneurysms are always true aneurysms
- D Morphology of the aneurysms is a good indicator of pathogenesis
- E Atherosclerosis is the most common cause of aneurysms

8 Abdominal aortic aneurysms

- A cause 90% mortality during emergency surgery for rupture
- B most commonly occur above the renal arteries
- C uncommonly contain mural thrombus
- D have a 2% risk per year of rupture if less than 4cm diameter
- E have a 50% risk per year of rupture if greater than 5cm diameter

9 Concerning aortic dissection

- A Dissection is commonly associated with marked dilatation of the aorta
- B Hypertension is an important causative factor in 50%
- C Dissection is most common in areas of extensive atherosclerosis
- D The most common cause of death is valve disruption
- E The most frequent preexisting histology is cystic medial degeneration

10 Concerning venous thrombosis

- A Genetic hypercoagulability syndromes are associated in 90% of cases
- B Deep pelvic veins account for 90% of cases
- C Appendicitis may lead to portal vein thrombosis
- D Migratory thrombophlebitis is a complication of pregnancy
- E Phlegmasia alba dolens is commonly associated with paraneoplastic syndrome

11 Concerning congestive heart failure

- A There is a 50% 5-year mortality
- B The most common cause is valvular disease
- C Venous stasis is an uncommon finding
- D The heart is able to compensate by myocardial hyperplasia
- E The Frank-Starling mechanism is of little importance

12 Concerning cardiac hypertrophy in response to cardiac failure

- A Hypertrophy may occur as a result of hyperthyroidism
- B Hyperplasia may occur if hypertrophy is maximal
- C Pressure hypertrophy is characterised by normal or reduced cavity diameter
- D Volume hypertrophy may be associated with decreased wall thickness
- E Patients with severe aortic regurgitation usually have a normal sized heart

13 The following are features of right sided heart failure EXCEPT

- A Cardiac cirrhosis
- B Peripheral oedema
- C Pericardial effusion
- D Facial oedema
- E Anasarca

14 Concerning atheromatous plaque in coronary arteries

- A Most commonly, a single artery is involved
- B Most patients with symptomatic IHD have lesions causing >75% stenosis
- C Most clinically important plaques are distally located in the coronary arteries
- D Acute coronary syndromes usually occur as a result of stable plaque
- E Plaque causing greater than 95% stenosis is most likely to undergo acute change

15 Concerning ischaemic heart disease

- A Death rate in the US from IHD has fallen by one half since 1980
- B Stable angina results from fixed coronary lesion
- C Unstable angina is characterised by complete obstruction of the artery
- D Vasoconstriction can result from increased release of NO
- E Thrombus is a poor activator of growth-related signals in muscle cells

16 Myocardial infarction

- A is most common over the age of 65 years
- B is less likely in post menopausal women due to reduced oestrogen
- C is caused by plaque thrombosis in 60% of cases
- D is caused by vasospasm in 40% of cases
- E is more common in men except in the >85 years age group

17 Concerning response to myocardial ischaemia

- A Loss of contractility occurs within 60 seconds
- B Ischaemia lasting more than 10 minutes results in irreversible injury
- C ATP is reduced to 50% normal in 30 minutes
- D Coagulative necrosis is more important than apoptosis
- E Irreversible injury initially occurs immediately adjacent to the occluded coronary artery

18 Concerning location of coronary artery stenoses

- A 90% are in the left anterior descending
- B 30-40% are in the right coronary artery
- C Occlusion of the RCA results in infarction of the left ventricle anterior wall and anterior part of the septum
- D 5% are in the left circumflex
- E Occlusion of the left circumflex results in infarction of the inferior-posterior wall of the left ventricle and the posterior septum

Q	A
1	D
2	C
3	B
4	A
5	A
6	D
7	E
8	D
9	E
10	C
11	A
12	C
13	D
14	B
15	B
16	A
17	D
18	B

Vivas

Atherosclerosis - pathogenesis	April 1995 October 1999 April 2001 August 2001 April 2003	
Atheroma – microscopic features	April 2000	
Aneurysms	April 1995	
Shock – irreversible	October 1997	
Shock – cardiogenic	October 1997 April 1998	
Shock – septic	October 1997 September 2000	
Shock – haemorrhagic	October 1999 April 2003	
Myocardial infarction – pathogenesis	April 1999 April 2000 August 2001	
Infective endocarditis – pathogenesis and clinical consequences	September 2000 September 2002	
Essential hypertension	August 2001	
Hypertensive heart disease	April 2003	

- 1 The cause of the greatest number of deaths attributable to smoking is**
- A Trachea, lung and bronchus malignancy
 - B Ischaemic heart disease
 - C Chronic respiratory disease
 - D Cerebrovascular disease
 - E Oesophageal carcinoma
- 2 Consequences of lead exposure include all of the following EXCEPT**
- A Hypertension
 - B Renal failure
 - C Polycythemia
 - D Encephalopathy
 - E Mental deterioration
- 3 Features of acute radiation syndrome include all of the following EXCEPT**
- A Thrombocytopenia
 - B Lymphocytopenia
 - C Shock
 - D Infertility
 - E Intractable vomiting
- 4 Which of the following vitamin deficiencies causes subacute combined degeneration of the spinal cord**
- A A
 - B B1
 - C B2
 - D B12
 - E K
- 5 Deficiency of which of the following is responsible for pellagra**
- A Thiamine
 - B Pyridoxine
 - C Folate
 - D Riboflavin
 - E Niacin

Q	A
1	A
2	C
3	D
4	D
5	E

- 1 Fat embolism**
- A occurs in 10% of individuals with severe skeletal injuries
 - B syndrome commences within 12 hours
 - C causes a diffuse petechial rash in 20%
 - D is fatal in 90% of those who develop fat embolism syndrome
- 2 Regarding thrombosis**
- A Abnormal blood flow is the most important component of Virchow's triad
 - B Stasis results in platelets coming into contact with endothelium
 - C Antithrombin III deficiency is the most common genetic abnormality of haemostasis
 - D Factor V mutation occurs in 50% of the population
 - E Factor V mutation results in impaired haemostasis
- 3 Regarding platelet aggregation**
- A Granule discharge is primarily stimulated by vWF
 - B vWF binds to GpIIa/IIIb
 - C Fibrinogen binds to Gp1a
 - D Thromboxane A2 is released from platelet granules
 - E Thrombin binds with ADP and thromboxane A2 to stimulate aggregation
- 4 Actions of thrombin include all of the following EXCEPT**
- A Conversion of fibrinogen to fibrin
 - B Inhibition of aggregation of platelets
 - C Stimulation of endothelium to produce tPA
 - D Activation of neutrophils
 - E Stimulation of endothelium to produce prostacyclin
- 5 Regarding oedema**
- A Transudate is protein rich
 - B Exudate has a specific gravity <1.012
 - C Lungs can increase in weight 5 or 6 times
 - D Oedema represents increased extracellular fluid volume
 - E Oedema represents increased interstitial fluid volume
- 6 The following are constituents of platelet dense granules EXCEPT**
- A ADP
 - B Histamine
 - C Adrenaline
 - D Calcium
 - E vWF

7 Regarding thrombi

- A Lines of Zahn can occur in all thrombi
- B 50% of venous thrombi occur in deep leg veins
- C Post mortem clots have a dark red homogenous consistency
- D Venous thrombi have a chicken-fat supernatant
- E Thrombi do not occur on heart valves unless there is infection

8 Regarding antiphospholipid antibody syndrome

- A 85% of those with recent stroke have anticardiolipin antibodies
- B Antibodies result in reduced clotting
- C Anticardiolipin is positive in syphilis
- D Anticardiolipin antibodies may occur in 15% of normal individuals
- E Typically it presents with arterial thromboembolism

9 Heparin induced thrombocytopenia syndrome

- A is caused by LMW heparin
- B occurs in 25% of the population
- C results in antibodies to heparin platelet factor 4 complex
- D leads to reduced platelet activation
- E leads to reduced thrombosis due to inhibition of platelet function

10 Regarding systemic thromboembolism

- A 50% arise from intracardiac mural thrombus
- B Two thirds of intracardiac mural thrombi arise in the atria
- C 10% are paradoxical emboli
- D 75% embolise to lower extremities

1	
2	B
3	E
4	
5	E
6	E
7	A
8	D
9	C
10	D

Haemopoetic system

	<p>Anaemia</p>	<p><i>'the reduction in oxygen carrying capacity of the blood'</i></p> <p>Blood loss</p> <p><i>Acute</i> Trauma</p> <p><i>Chronic</i> Lesions of the gastrointestinal tract Menstrual abnormalities</p> <p>Increased red cell destruction (haemolytic anaemias)</p> <p>Impaired red cell production</p> <p><i>Stem cell defects</i></p> <p>Aplastic anaemia</p> <p>Inherited Fanconi anaemia</p> <p>Acquired</p> <p>Drugs and chemicals</p> <p>Dose related Alkylating agents Benzene Chloramphenicol</p> <p>Idiosyncratic Chloramphenicol Chlorpromazine Insecticides</p> <p>Infection CMV EBV VZ</p> <p>Pure red cell aplasia</p> <p>Anaemia of renal failure</p> <p><i>Defective DNA synthesis</i> Vitamin B₁₂ and folate deficiency</p> <p><i>Defective haemoglobin synthesis</i> Iron deficiency Thalassaemia</p> <p><i>Anaemia of chronic disease</i> Characterized by low serum iron, high ferritin and reduced TIBC Release of cytokines (IL1, TNF, interferon) causes reduced erythropoietin response and marrow hypoproliferation</p> <p>Chronic infection</p> <p>Chronic immune disorders</p> <p>Neoplasms</p>
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Disease	Epidemiology	Aetiology	Pathogenesis	Morphology	Clinical features
Haemolytic anaemias	Intrinsic abnormalities of red cells <i>Hereditary</i> <i>Red cell membrane disorders</i> Hereditary spherocytosis Elliptocytosis <i>Red cell enzyme deficiencies</i> Pyruvate kinase, hexokinase, G6PD, glutathione synthetase. <i>Disorders of haemoglobin synthesis</i> Thalassaemias Haemoglobinopathies <i>Acquired</i> Paroxysmal nocturnal haemoglobinuria Extrinsic abnormalities <i>Antibody mediated</i> Transfusion reactions Erythroblastosis fetalis Autoantibodies Idiopathic Drug associated SLE Mycoplasma infection <i>Mechanical trauma to red cells</i> Trauma Microangiopathic haemolytic anaemias TTP, DIC Mechanical valves <i>Infections</i> Malaria <i>Chemical injury</i> Lead poisoning <i>Hypersplenism</i>		Haemolytic anaemias are characterized by the following features Shortening of the normal red cell life span and therefore premature destruction of cells Most destruction occurs extravascularly due to sequestration of red cells in the spleen and phagocytosis HS, sickle cell anaemia Intravascular haemolysis occurs when normal red cells are damaged by mechanical injury, complement fixation or exogenous toxic factors. Intravascular haemolysis is characterized by: Haemoglobinaemia Haemoglobinuria Jaundice Haemosidinuria Accumulation of the products of haemoglobin catabolism Marked increase in haematopoiesis within the bone marrow.	Marked increase in normoblasts in the bone marrow. Prominent peripheral reticulocytosis. Pigment stones may form in the gallbladder.	Anaemia Jaundice Cholelithiasis

Disease	Epidemiology	Aetiology	Pathogenesis	Morphology	Clinical features
Sickle cell disease <i>'a hereditary disease characterized by the production of structurally abnormal haemoglobin'</i>	8% of black Americans are heterozygotes and produce 40% HbS 30% of Africans are heterozygotes in endemic malaria areas 90% survive to 20 years 50% survive beyond 5 th decade		Adult haemoglobin HbA (alpha2beta2) 96% HbA2 (alpha2delta2) 3% HbF (alpha2gamma2) 1% Point mutation substitutes valine for glutamic acid at the 6 th position of the globin chain leading to the production of HbS HbS aggregates and polymerizes at low oxygen tension and forms sickle shaped cells. Cells are mostly sequestered in spleen, though intravascular haemolysis can also occur. Average red cell survival is 20 days. Initial sickling is reversible, repeated events lead to irreversible sickling Sickling also results in damage to red cell membranes of normal and sicled cells Sickling affected by Haemoglobin type HbC promotes sickling HbF inhibits sickling, therefore newborns do not manifest the disease until 5-6 months MCHC High HbS concentration promote sickling, therefore dehydration must be avoided Reduced pH induces sickling Two major consequences of sickling Chronic haemolytic anaemia Occlusion of small blood vessels	Macroscopic Splenic enlargement then infarction by early adulthood (autosplenectomy) Infarction may occur in Bone Brain Kidney Liver Retina Lung (may cause cor pulmonale)	Anaemia Hyperbilirubinaemia Crises Vaso-occlusive or painful Usually due to infection or dehydration Bone crises most common Aplastic Cessation of bone marrow activity due to parvovirus infection Sequestration May occur in children with splenomegaly Autosplenectomy results in reduced opsonisation of encapsulated bacteria such as pneumococcus and haemophilus resulting in increased risk of septicaemia and meningitis Tested by mixing blood with oxygen-consuming reagent such as metabisulphite
Iron deficiency anaemia	Most common nutritional disorder in the world	Aetiology of deficiency Decreased intake Inadequate diet 5-10mg (men) and 7-20mg/day required in diet Impaired absorption Haem iron more absorbable than inorganic iron Absorption enhanced by vitamin C, citric acid, amino acids and sugars Absorption inhibited by tea, carbonates, oxalates and phosphates Increased requirement Malabsorption Tropical and non-tropical sprue Chronic diarrhoea Increased requirement Children Pregnancy Hyperthyroidism Disseminated cancer Chronic blood loss Peptic ulcers Chronic gastritis Colon carcinoma	Hypochromic microcytic anaemia	Anaemia Koilonykia Alopecia Tongue and gastric atrophy Oesophageal webs <i>Plummer Vinson syndrome</i> Microcytic anaemia Atrophic glossitis Oesophageal webs Low serum iron, ferritin and TIBC	

	<p>Bleeding disorders</p>	<p>Vessel wall abnormalities</p> <p>Infection Neiseria meningitidis Other sepsis, endocarditis</p> <p>Drug reactions Immune complex deposition</p> <p>Henoch-Schonlein purpura</p> <p>Scurvy</p> <p>Ehlers danlos syndrome</p> <p>Hereditary haemorrhagic telangiectasia</p> <p>Amyloid</p> <p>Thrombocytopenia</p> <p><i>Decreased production</i> Aplastic anaemia Marrow infiltration Megaloblastic anaemia Drugs Alcohol Thiazide diuretics Cytotoxic drugs Infections Measles HIV</p> <p><i>Decreased survival</i></p> <p>Immune destruction Autoimmune disorders ITP SLE Post transfusion Drugs Heparin Penicillins Methyldopa Quinidine Infection Infectious mononucleosis HIV CMV</p> <p>Non-immune destruction DIC TTP Giant haemangiomas Hypersplenism</p> <p>Abnormal platelet function Congenital Bernard soulier syndrome Thrmobasthenia Acquired Drugs Aspirin Uraemia</p> <p>Coagulation disorders Congenital Haemophilia A Haemophilia B Acquired Vitamin K deficiency Liver disease DIC</p>
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Disease	Epidemiology	Aetiology	Pathogenesis	Morphology	Clinical features
Idiopathic thrombocytopenia purpura <i>'autoimmune disorders characterized by formation of antiplatelet antibodies and destruction of platelets'</i>	Chronic ITP Most common in women less than 40 years Female to male 3:1 Acute ITP Childhood disease preceded by acute viral infection		Chronic ITP IgG antibodies form against platelet membrane glycoproteins lib-IIIa or Ib-IX Opsonised platelets are then phagocytosed by mononuclear phagocytes – spleen is the major site of removal There is some evidence to suggest megakaryocyte injury or destruction but this is minor Acute ITP Typically preceded by a viral illness 2 weeks prior	Normal size spleen Congested sinusoids Hyperactivity and enlargement of splenic follicles Bone marrow has increased megakaryocytes	Chronic ITP Insidious onset Characteristic long history of nose bleeds, easy bruising Bleeding time prolonged PT and APTT normal Acute ITP Abrupt onset Usually self limiting (lasts less than 6 months) 20% go on to develop chronic ITP
Von willebrand disease	One of the most common inherited disorders of bleeding in humans 1% frequency	Autosomal dominant	Several variants Type 1 and 3 have reduced quantities Type 2 has VWF with functional defects VWF produced by endothelial cells Functions Forms a complex with factor VIII – factor VII required for factor X activation Facilitates the adhesion of platelets to endothelium via platelet GpIb-IX		Prolonged bleeding time, normal platelet count Characterised by excessive bleeding from wounds, menorrhagia, spontaneous mucous membrane bleeding
Haemophilia A	Mostly occurs in males and homozygous females Can occur in heterozygous females if there is unfavourable lyonisation	X-linked recessive 30% have no family history	Factor VIII deficiency Factor VII serves as a cofactor required for the activation of factor X Clinical effect correlates with level of factor VIII <1% severe 2-5% - moderate 6-50% - mild		Easy bruising Haemorrhage after trauma Spontaneous haemorrhage into joints Petechiae are characteristically absent Normal bleeding time Normal platelets Increased PTT Normal PT
Haemophilia B		X-linked recessive	Factor IX deficiency In 14% factor IX is present but non-functional		Easy bruising Haemorrhage after trauma Spontaneous haemorrhage into joints Petechiae are characteristically absent Normal bleeding time Normal platelets Increased PTT Normal PT

Disease	Epidemiology	Aetiology	Pathogenesis	Morphology	Clinical features
<p>DIC</p> <p><i>'acute, subacute or chronic thrombo-haemorrhagic disorder characterized by the activation of the coagulation system and formation of microthrombi throughout the microcirculation'</i></p>	<p>50% are obstetric patients</p> <p>33% have carcinomatosis (DIC tends to develop insidiously)</p>	<p>Obstetric complications</p> <ul style="list-style-type: none"> Amniotic fluid embolism Septic abortion Abruption Toxaemia <p>Malignancies</p> <ul style="list-style-type: none"> Pancreas, prostate, lung, stomach <p>Infection</p> <ul style="list-style-type: none"> Gram negative sepsis <ul style="list-style-type: none"> <i>Bacterial endotoxins cause increased synthesis of tissue factor by monocytes</i> <i>Activated monocytes release IL1 and TNF that increase expression of tissue factor on the surface and decrease the expression of thrombomodulin</i> <i>TNF may also cause direct endothelial injury and activate factor VIII</i> Meningococcus Malaria Aspergillus Histoplasma <p>Massive trauma</p> <ul style="list-style-type: none"> Burns Surgery <p>Miscellaneous</p> <ul style="list-style-type: none"> Snakebite Liver disease Heat stroke <p>Initiating mechanisms</p> <ul style="list-style-type: none"> Release of tissue factor or thromboplastic substances into the circulation Widespread injury to endothelial cells <p>Consequences</p> <ul style="list-style-type: none"> Fibrin deposition in microcirculation Ischaemic injury Microangiopathic haemolytic anaemia Activation of plasmin Haemorrhagic diathesis due to consumption of clotting factors 	<p>Thrombi most commonly form in</p> <ul style="list-style-type: none"> Brain Heart Lungs Kidneys Spleen Liver <p>Can be found in any organ</p> <p>Hyaline membranes may form in the alveoli</p>	<p>Acute DIC tends to be dominated by bleeding diathesis</p> <p>Chronic DIC tends to present with thrombotic complications</p> <p>Varied clinical symptoms and signs</p> <p>Haemolytic anaemia</p> <p>Respiratory failure</p> <p>Convulsions</p> <p>Shock</p>	
	<p>Neutropenia</p>	<p><i>'a reduction in the number of granulocytes in the peripheral blood'</i></p> <p>Ineffective production</p> <ul style="list-style-type: none"> Aplastic anaemia Marrow infiltration Megaloblastic anaemia Myelodysplasia Rare inherited disorders – Kostmann syndrome <p>Increased destruction</p> <ul style="list-style-type: none"> Immune mediated <ul style="list-style-type: none"> Drugs <ul style="list-style-type: none"> Alkylating agents and antimetabolites Chloramphenicol Chlorpromazine, clozapine SLE Splenic sequestration Increased use Overwhelming bacterial, fungal or rickettsial infection 			
	<p>Splenomegaly</p>	<p>Infections</p> <ul style="list-style-type: none"> Non-specific splenitis Infectious mononucleosis TB Typhoid Brucellosis CMV Toxoplasma Syphilis Malaria Histoplasma, schistosomiasis, leishmaniasis <p>Congestion secondary to portal hypertension</p>			

		<p>Cirrhosis Portal or splenic vein thrombosis</p> <p>Lymphohaematogenous disorders Hodgkin disease Non-hodgkin lymphoma Multiple myeloma Myeloproliferative disorders Haemolytic anaemias TTP</p> <p>Immune disorders RA SLE</p> <p>Storage disorders Gaucher disease Niemann pick disease Mucopolysaccharidoses</p> <p>Miscellaneous Amyloid Primary and secondary neoplasms</p>
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1 Which of the following is a DS DNA virus

- A Adenovirus
- B Coronavirus
- C Mumps virus
- D Rotavirus
- E Hepatitis C virus

2 Regarding viral respiratory infections

- A Rhinovirus causes 60% of common colds
- B All respiratory viruses are SSRNA
- C Most prefer temperatures above 37°C
- D They are characterised by neutrophilia
- E Influenza is not a major cause of morbidity or mortality

3 Tuberculosis

- A is decreasing in incidence
- B is able to induce type II hypersensitivity
- C results in the formation of a ghon complex as part of secondary infection
- D is characterised by an intense initial phagocytosis by macrophages
- E is extrapulmonary in most patients with AIDS

4 All of the following invade gut epithelial cells EXCEPT

- A Shigella
- B Campylobacter
- C Rotavirus
- D Vibrio cholerae
- E Salmonella

5 Regarding clostridial infections

- A Clostridium species are all spore forming gram negative anaerobes
- B Clostridium difficile is not a normal bowel inhabitant
- C Tetanus is always symptomatic within 10 days of wound infection
- D Botulism causes a spastic paralysis
- E Clostridium difficile secrete type A and B toxins

Q	A
1	A
2	A
3	E
4	E
5	E

- 1 Secondary causes of osteoporosis include the following EXCEPT**
- A Type 2 diabetes
 - B Hyperparathyroidism
 - C Hypogonadism
 - D Vitamin C deficiency
 - E Multiple myeloma
- 2 Of the following, the most likely cause of a metastatic bone tumour in an adult is**
- A Osteosarcoma
 - B Pancreatic carcinoma
 - C Seminoma
 - D Thyroid carcinoma
 - E Renal cell carcinoma
- 3 Regarding osteoarthritis**
- A Osteoblasts are stimulated to produce IL1 and TNF
 - B Lipase stimulation results in bony cysts
 - C Articular fracture indicates coexisting osteoporosis
 - D Water content of the bone matrix decreases
 - E Sclerosis is a common finding

Q	A
1	A
2	E
3	E

1 Regarding benign and malignant neoplasms

- A All malignant neoplasms can metastasise
- B 30% of newly diagnosed patients with malignancy have metastases
- C Benign tumours are anaplastic
- D Large numbers of mitoses are indicative of malignancy
- E Malignant neoplasms are always poorly differentiated

2 The most common cancer in men is

- A Lung
- B Colon and rectum
- C Prostate
- D Stomach
- E Leukaemia

3 The most common cause of cancer mortality in males aged 15-34 is

- A Non-Hodgkin lymphoma
- B Lung
- C Brain
- D Leukaemia
- E Prostate

4 The most common cause of cancer mortality in females aged 15-34 is

- A Brain
- B Cervix
- C Leukaemia
- D Non-Hodgkin lymphoma
- E Breast

5 A single transformed cell must undergo how many doublings to become a clinically detectable lesion weighing approximately 1g

- A 10
- B 30
- C 50
- D 110
- E 1300

- 6 Procarcinogens include all of the following EXCEPT**
- A Cyclophosphamide
 - B Benzopyrene
 - C Aflatoxin
 - D Betel nut
 - E Vinyl chloride
- 7 Which of the following is the correct oncogenic virus disease association**
- A HPV – Burkitt lymphoma
 - B HTLV-1 – nasopharyngeal carcinoma
 - C EBV – B cell lymphoma
 - D EBV – cervical carcinoma
 - E HPV – cervical carcinoma
- 8 Which of the following malignancies is associated with acanthosis nigricans**
- A Hepatocellular carcinoma
 - B Breast carcinoma
 - C Renal carcinoma
 - D Pancreatic carcinoma
 - E Gastric carcinoma
- 9 Alpha fetoprotein is a tumour marker for which malignancy**
- A Ovarian carcinoma
 - B Colon carcinoma
 - C Stomach carcinoma
 - D Breast carcinoma
 - E Hepatocellular carcinoma

Q	A
1	B
2	C
3	D
4	E
5	B
6	A
7	E
8	E

1 Regarding acute tubular necrosis

- A Haemoglobinuria tends to cause an ischaemic type injury pattern
- B ATN accounts for 80% of acute renal failure cases
- C Ischaemic injury causes extensive necrosis along the PCT
- D Tubular epithelial injury always results in scarring
- E Accumulations of mast cells in the vasa recta are typical

2 Acute pyelonephritis

- A is caused by gram negative organisms in 65% of cases
- B is most commonly caused by proteus infection
- C most commonly arises from haematogenous infection
- D is typified by papillary necrosis in diabetics
- E is the most common cause of acute renal failure

3 The following are predisposing factors for acute pyelonephritis EXCEPT

- A Horseshoe kidney
- B Diabetes
- C Prostatic hypertrophy
- D Renal calculus
- E SLE

4 Accelerated hypertension

- A occurs in 10% of all patients with hypertension
- B can occur in previously normotensive patients
- C is more common in elderly women
- D is associated with low plasma renin
- E is associated with renal salt wasting

5 Urolithiasis

- A most commonly occurs in older men
- B is most commonly caused by struvite stones
- C is bilateral in 80% of patients
- D only causes pain if stone diameter is greater than 3mm
- E most commonly form in the renal calyces and pelvis

Q	A
1	A
2	D
3	B
4	B
5	E

1 Regarding the pathogenesis of atopic asthma

- A Allergen initially penetrates intercellular junctions to cause degranulation of submucosal mast cells
- B Direct antagonism of sympathetic receptors results in bronchoconstriction
- C Direct autonomic stimulation does not involve C fibres
- D Eotaxin is produced by airway epithelial cells
- E Major basic protein is produced by recruited macrophages

2 Hyperbaric oxygen is useful in the treatment of all of the following EXCEPT

- A Chronic wounds
- B Osteomyelitis
- C Gas gangrene
- D Leprosy
- E Retrolental fibroplasias

3 The most common cause of ARDS is

- A Pancreatitis
- B Burns
- C Drug overdose
- D Near drowning
- E Sepsis

4 Regarding pulmonary embolism

- A Most emboli arise from pelvic veins
- B It is the sole or major contributing cause of 10% of acute hospital deaths
- C It usually causes infarction of lung parenchyma
- D Antithrombin III deficiency is the most common genetic cause
- E PE is rare in patients despite an increased risk of systemic thromboembolism

5 Centriacinar (centrilobular) emphysema

- A constitutes 50% of cases
- B primarily affects the respiratory bronchioles
- C occurs less commonly in smokers
- D generally affects the lower lobes
- E does not occur in coal workers pneumoconiosis

6 Regarding chronic bronchitis

- A Mucus hypersecretion is due to increase in goblet cell number only
- B Small airway mucus production is the dominant early pathological change
- C Infection is an important pathogenetic mechanism
- D Chronic bronchitis and emphysema rarely occur together
- E Severity of disease can be measured using the Reid index

7 Lung defence mechanisms include all of the following EXCEPT

- A IgM secreted by the upper respiratory tract
- B Alveolar complement
- C Alveolar neutrophils
- D Accumulation of T cells
- E Mucous entrapment

Q	A
1	D
2	E
3	E
4	B
5	B
6	E
7	A