

## The Normal Cell

1. What is the function of the smooth endoplasmic reticulum	steroid synthesis
2. Pinocytosis	is a way of transporting large molecules
3. Regarding SER	For lipid synthesis
4. Ribosomes (2 subunits, 60% rRNA)	synthesise haemoglobin (the globin bit)
5. Which cell type is found predominantly in the periarteriolar sheaths of the spleen & paracortical areas in lymph nodes (B lymphocytes are white pulp of spleen and superficial cortex of nodes. NB Question originally said 'periarteriolar sheath of the white pulp of the spleen' which is confusing)	T lymphocyte
6. Smooth endoplasmic reticulum	is the site of cell steroid production
7. Pinocytosis (pinches off from membrane)	involves the uptake of soluble macromolecules
8. Which cell organelle has no basement membrane (I hope they mean lipid bilayer! Mitochondrion, RER, lysosome, lysozyme all do)	centriole
9. Regarding Mitochondria (not in RBCs, dual membranes)	are self replicative
10. Regarding centrioles	are responsible for spindle formation in mitosis
11. Which substance is not subject to passive diffusion	Na (May be the electrolyte the membrane is least permeable to?? I like PO4 though)
12. Regarding ribosomes (2 subunits, 60% rRNA – that's RNA not DNA, it's a trap!)	They synthesise haemoglobin (NOT heme!)
13. What is the function of the smooth endoplasmic reticulum; which is incorrect (steroid synth, drug detox/P450, role in CHO metabolism)	protein synthesis

## Cell Injury & Adaptation

1. Regarding dystrophic calcification; which is correct (multiple myeloma → bone destruction and hypercalcaemia → metastatic calcification)	causes organ dysfunction (eg valve lesion)
2. Regarding atrophy; all are correct except	decreased autophagic vacuoles (may have increase)
3. Which of the following is an example of hypertrophy	increase in size of female uterus during pregnancy
4. Hyperplasia	Increased mitotic bodies (this should be true, but no direct quote) Due to increased function demands (appears in table 1.1, choose this)
5. Regarding atrophy, all are correct except	Decreased autophagic vacuoles (increase)
6. Which of the following is an example of hypertrophy	Increase in size of female uterus in pregnancy
7. Repeat Q regarding wound healing and time frames... 'What occurs at the same time?'	Neutrophils and basal epithelial mitoses
8. Which is an example of hypertrophy?	the pregnant uterus
9. Which of the following is not associated with atrophy	decreased autophagic vacuoles
10. Examples of hyperplasia include	glandular epithelium of pubertal breasts
11. Hypertrophy	is triggered by mechanical and trophic chemicals
12. All the following are features of apoptosis (chromatin condensation, formation of cytoplasmic blebs, lack of inflammation, phagocytosis of apoptotic bodies) EXCEPT	cell swelling (cell shrinkage)
13. Dystrophic calcification	is formed by crystalline calcium phosphate mineral
14. Irreversible cell injury is characterised by (inability to reverse mitochondrial dys <sup>n</sup> and...)	cell membrane defects
15. Metaplasia (vit A def <sup>c</sup> causes, reversible by def)	is the process that occurs in Barrett's oesophagitis
16. Dysplasia (generally epithelial cells, carcinoma in situ when full thickness, loss of architectural orientation)	is characterised by cellular pleomorphism
17. Metastasis	unequivocally prove malignancy

## Tissue Renewal & Repair

1. With regard to wound healing	neutrophils proliferate at the wound margins at the same time as epithelial proliferation occurs
2. With regard to wound healing	Neutrophils proliferate at the wound margins at the same time as epithelial proliferation occurs

3. Platelets ( <b>alpha (fibrinogen, fibronectin, factor 5/8 PGDF, TGFβ) and dense (ADP/ATP/Ca) granules, no nucleus. Thrombin from liver</b> )	are found in the plasma at levels of 200-500 per microlitre
4. Macrophages may secrete ( <b>histamine &amp; prostaglandins/mast cells; serotonin/platelets</b> )	oxygen free radicals
5. Which of the following cells cannot phagocytose ( <b>eosinophils, dark ninjas of phagocytosis</b> )	T-cells
6. The most common peripheral circulating lymphocyte is ( <b>B-cell 10-20%</b> )	T-cell ( <b>60-70%</b> )
7. Mast cell ( <b>release preformed granules, NOT lysosomes</b> )	may discharge independent of IgE ( <b>C5a, C3a...also IL8/morph/mellitin-bee sting</b> )
8. Metastatic calcification occurs in ( <b>acid losing tissues – kidneys, lungs, vessels</b> )	gastric mucosa
9. Concerning the repair of a well opposed, clean surgical incision ( <b>dermal appendages don't recover, collagen accumulates day 3, granulation tissue invades the incision space, strength 1wk 10%, 2mths 70-80%</b> )	there is an initial inflammatory response ( <b>always</b> )
10. With respect to wound healing	neutrophils proliferate at the wound margins at the same time as epithelial proliferation occurs
11. Which occurs first in fracture healing	neutrophil invasion
12. Subchondral necrosis	associated with diving injuries
13. In bone fracture healing	woven bone forms in the periosteum of the medullary cavity ( <b>DODGY</b> )
14. In healing by primary intention	an epiteheal spur forms on the first day

## Acute & Chronic Inflammation

1. Which occurs first in acute inflammation ( <b>arteriolar dilation, oedema, leucocyte margination, stasis of blood flow</b> )	arteriolar constriction
2. Regarding chronic inflammation	monocytes use the same chemotactic pathway as neutrophils (hmmm...)
3. The first thing to occur in acute inflammation is	vasoconstriction
4. Regarding chronic inflammation	frequently follows acute ?????? least bad answer, often comes with answer to 2 above (monocytes+neutrophils)
5. Factor C5a (all TRUE)	is chemotactic for neutrophils stimulates arachidonic acid metabolism same factors that are chemotactic for neutrophils as for macrophages
6. Mast cells ( <b>from bone marrow NOT thymus, found near blood vessels and nerves in subendothelial sites</b> )	can degranulate without IgE ( <b>C5a, C3a...also IL8/morph/mellitin-bee sting</b> )
7. Regarding chronic inflammation ( <b>monocytes 1/2 in blood = 1 day, years in tiss=macrophages</b> )	frequently follows acute ( <b>THIS IS NOT REALLY TRUE</b> )
8. Bradykinin (from HMWK by enzyme=kallikrein (from prekallikrein, by 12a), kallikrein also → fibrinolysis)	causes vasodilation
9. What is released by macrophages	O2 radicles
10. Mast cells Which is <b>NOT</b> chemotactic ( <b>C5a, Leukotriene B4, Bacterial polypeptides, Cytokines ARE</b> )	Can degranulate without IgE stimulation Histamine
11. Phagocytosis (3 steps: recog/attach, engulf, kill. C3b is an opsonin, which ↑'s effc.)	Bacterial killing occurs by mainly O2 dependant mechanisms
12. Regarding Chronic inflammation (hmmm...I'd chose the second one)	Freq follows acute inflammation Chemotactic factors for monocytes same as for neutrophils
13. Regarding fatty change - which is <b>INCORRECT</b> ( <b>TRUE: protein malnutrition causes, oxidized in mito., DM causes</b> )	May represent unmasking of normal cell fat content ( <b>FALSE statement</b> )
14. Which of the following is an example of an oxygen dependent process?	Halogenation ( <b>it's part of that whole phagocytosis, H2O2, superoxide dismutase process</b> )
15. What is the correct order of events in acute inflammation	v/c, v/d, stasis, oedema, leukocyte margination
16. Question regarding Complement pathway	Classic - Ab, Alt - Bact, Lecthin.
17. Leucocytes move into the tissues from the vasculature (extravasation) ( <b>Neutrophils first, C3b opsonise, C5a chemotaxis, in post cap venules</b> )	by the action of actin and myosin
18. Regarding chemical mediators of inflammation (kinin sys in plasma and endothelium, not platelet)	Seretonin is preformed in mast cells
19. Chronic inflammation is	the factors underlying monocyte infiltration are the same as for acute inflammation
20. In the triple response the reactive hyperemia is due to ( <b>1. red rxn due to capillary dilation, a direct response to pressure. 2. wheal, local oedema due to increased permeability 3. flare, due to arteriolar dilation (so the flare is what robbins calls reactive hyperaemia, maybe)</b> )	<b>Arteriolar dilation</b> still present after sympathectomy (TRUE, but look at the question)

21. Vascular hyperemia (local hypoxia)	results in oedema
22. Macrophages are derived from	monocytes
23. With respect to the changes in acute inflammation, which occurs first	If you get this question wrong, I'll kick you in the shins.
24. Regarding chronic inflammation	Monocytes use the same chemotactic pathway as neutrophils
25. What is released by macrophages	oxygen free radicals

## Fluid & Haemodynamics

1. Non inflammatory oedema	is associated with high ANP
2. Non thrombocytopaenic purpura is associated with ( <b>HIV, Aplastic anaemia</b> → ↓ platelets)	meningococcaemia
3. Chronic pulmonary oedema is characterised by	haemosidderin loaded macrophages
4. DIC ( <b>if chronic eg malig</b> → <b>thrombosis, if acute eg trauma/obstet</b> → <b>bleeding</b> )	is due to activation of the fibrinolytic system
5. Non thrombocytopaenic purpura is associated with	meningococcaemia
6. Cause of increased vascular permeability ( <b>direct inj, leukocyte inj, ↑ transcytosis, angiogenesis and...</b> )	Venular endothelium contraction
7. Non-inflamm causes of oedema (SG < 1.012)	Commonest cause increased hydrostatic
8. What isn't cause of oedema?	Increased lymph flow
9. Amniotic fluid embolus (1:50,000, multips, 50% get DIC, don't know what length of labour does))	mortality >80%
10. Factor VIII ( <b>Prothrombin time (PT) normal, PTT↑, 8a+9a activates 10→10a, Useful in Haemophilia A (B=9defic). 1%=severe disease, 2-5% mod, 6-50%mild</b> )	Bound to large vWF 50% of normal activity gives mild disease
11. Regarding clotting cascade ( <b>Thromboplastin =TF =extrinsic</b> )	Thrombomodulin can bind and activate thrombin ( <b>to make it an activator of Protein C, anticlot</b> )
12. Passive hyperaemia (badly worded, ?='congestion') caused by	Portal hypertension
13. Post mortem features of clot include (hopefully they mean the difference between thrombis, and clotted blood in dead people)	The absence of RBC's in supernatant
14. What best defines the pathophysiology underlying shock and the resultant	Widespread tissue hypoxia as a result of decreased <b>blood volume(should be C.O.)/effective blood volume</b> Cellular hypoxia resulting from impaired tissue perfusion ( <b>these two statements together are the definition</b> )
15. White infarcts ( <b>in heart/kidney/spleen, needn't be septic</b> )	May be transiently red ( <b>'at outset all are poorly defined and slightly haemorrhagic'</b> )
16. Central pathophysiological feature of shock ( <b>better worded, makes the second stem above look better</b> )	cellular hypoxia at a tissue level
17. Septic shock may cause all of the following ( <b>myocardial depression, DIC, ARF, ARDS</b> ) EXCEPT	vasoconstriction
18. Shock results in	decreased capillary hydrostatic pressure
19. The process of blood coagulation involves	the removal of peptides from each fibrinogen molecule
20. With respect to the complement (alternative by microbial polysacc)	C5a initiates arachadonic acid metabolite release from neutrophils
21. With regard to embolism (pulmonary emboli are multiple and usually silent)	amniotic fluid emboli are associated with the highest mortality (20-40-80%, depending where you look)
22. Regarding the veins of the lower limb ( <b>Buerger's in smokers→gangrene; varicosity have familial tendency, 10% venous thrombosis in superficial veins</b> )	phlegmasia alba dolens is associated with iliofemoral vein thrombosis ( <b>'Milk leg' in preg</b> )
23. Post mortem features of clot include	absence of red cells in supernatant
24. Air embolism ( <b>100ml for clinical symptoms</b> )	Focal ischaemia in brain
25. Amniotic fluid embolism	is associated with a greater than 80 % mortality
26. Fat embolism syndrome is assoicated with (<10% have sxs, of those 10% fatal. Thrombocytopaenic rash)	No correct answer
27. Non-inflammatory oedema	is associated with elevated levels of ANP
28. Regarding oedema ( <b>hered angioneuroticoedema involves skin, larynx and intest mucosa</b> )	hepatic cirrhosis is the most common cause of hypoproteinemia ( <b>by exclusion of others, no explicit reference</b> )
29. Pulmonary congestion is associated with	haemosiderin deposition in macrophages
30. Which of the following factors is part of the intrinsic pathway of coagulation?	Calcium
31. Which are features of a clot at post mortem?	Supernatant resembling chicken fat / absence of red cells in the supernatant

32. Which is a feature of non-inflammatory causes of oedema (there's are table)	Right atrial pressure high
33. Regarding air embolism, What amount is required to produce symptoms	100ml
34. The most common haemodynamic mechanism of pulmonary edema is	Increase hydrostatic pressure
35. Which is most likely to cause thrombocytopenic purpura	AIDS

## Diseases of Immunity

1. Regarding HIV; which is correct ( <b>↓type 4 hypersens., ↓CD4 &gt; ↓CD8, no antibody response to new antigen</b> )	causes polyclonal hypergammaglobulinaemia
2. Hyperacute rejection	can be decreased by prior cross match of blood
3. Which is an AIDS defining illness ( <b>non-hodgkins!</b> )	Invasive cervical carcinoma
4. Which is NOT more common in HIV ( <b>bad Q, all the answers are AIDS defining</b> )	mycoplasma pneumonia, atypical mycobacteria, HSV, CMV
5. hyperacute graft rejection	decreased with cross matching
6. Hyperacute transplant rejection is due to	Fibrinoid necrosis in arterial walls
7. Which is an AIDS defining illness?	Invasive cervical carcinoma
8. Regarding HIV, which is correct?	causes polyclonal hypergammaglobulinaemia
9. What are the histological changes of acute graft rejection?	Vasculitis ( <b>humeral</b> ) mononuclear cells ( <b>cellular</b> )
10. Regarding the rhesus blood group system ( <b>D antigen determines status, 85% Caucasians +ve</b> )	Has very few spontaneous agglutinins within this system
11. IgM: ( <b>GAMDE=75/15/9/1/1; M=pentamer, not placenta; A dimer(or monomer), secretions; D, B cell surface</b> )	is an extremely effective agglutinin
12. T lymphocytes	contain CD3 proteins are capable of cytotoxic activity
13. In transplant rejection the hyperacute rejection is	prevented largely by cross-matching blood
14. All the following are type 1 hypersensitivity <b>primary</b> (=preformed: eosinophil chemotactic factor, heparin, <b>tryptase, histamine</b> ) mast cell mediators EXCEPT	platelet activating factor ( <b>secondary</b> )
15. Type 2 hypersensitivity	explain many transfusion reactions
16. A man with type B blood ( <b>type O commonest</b> )	none of the above
17. The majority of AIDS cases are reported from	homosexual males (west) Heterosexual contact (world)
18. The following are opportunistic AIDS infections EXCEPT	PCP Atypical mycobacterium CMV Mycoplasma pneumonia
19. HIV is associated with	polyclonal hypergammaglobulinemia
20. Which of the following reactions is cell mediated	SLE
a. Arthus reaction	Anaphylaxis
b. Graft rejection	Goodpastures

## Neoplasia

1. Regarding the oral contraceptive pill, it is protective against	ovarian carcinoma ( <b>endometrial</b> )
2. The most common type of thyroid cancer is	papillary ( <b>80%</b> )
3. Skin stigmata of internal malignancy	Acanthosis nigrans
4. To which 2 organs do tumours most commonly spread to haematogenously	Liver & lungs
5. Regarding the oral contraceptive pill - it is protective against	Ovarian carcinoma
6. Internal carcinoma is associated with which of the following skin disorders	acanthosis nigricans
7. The commonest cause of thyroid carcinoma is	papillary
8. Mesothelioma is associated with ( <b>bronchial carcinoma, pneumoconiosis, pleural plaques, fibrosis</b> ), EXCEPT	Siderosis (iron deposition)
9. Which is a skin manifestation of malignancy	acanthosis nigrans

## Infectious Disease

1.	TB's pathogenicity	Type IV hypersensitivity reaction
2.	Secondary syphilis ( <b>frequently palms and soles, 2-10wks post primary</b> )	Infectious because they contain spirochetes
3.	Aschoff bodies	Rheumatic carditis
4.	Hep B	HBeAg = active replication
5.	Which of the following is not transmitted by anthropods	Q fever ( <b>it can be, but best answer</b> )
6.	Aschoff bodies are classically seen in	rheumatic fever
7.	Regarding Hepatitis E	mortality of 20% in pregnant females
8.	Staph can cause	food poisoning, tonsillitis, Scarlet fever
9.	All of the following are DNA viruses except	HIV
10.	Which is the most common peripheral site for TB	<b>Primary=lower part up lobe, up part lower lobe, near pleura</b> <b>Secondary=near apical pleura</b>
11.	Regarding Hepatitis E	mortality of 20% in pregnant females
12.	What is an RNA virus	HIV
13.	What is a cause of non-thrombocytopenic purpura	Meninococcal
14.	Most common cause of fungal endocarditis	Candida
15.	All of the following are DNA viruses except	HIV
16.	Rickettsial infections	Involve the endothelial cells
17.	Regarding Hepatitis E infection, which is true?	pregnant women have a 20% mortality
18.	What is true regarding polio virus? ( <b>RNA enterovirus, fecal-oral, lives in ant horn, sxs in 1%</b> )	it causes a viraemia and then spreads to the spinal cord and brainstem ( <b>also retrograde motor axon t'port</b> )
19.	Staph aureus ( <b>all true</b> )	has enterotoxins which stimulate emetic receptors in the abdominal viscera has a lipase which degrades lipids on the skin surface has a capsule that allows it to attach to artificial materials has receptors on it's surface which allow binding to host endothelial cells
20.	Staph aureus can cause all of the following EXCEPT	scarlet fever
21.	Which of the following is NOT a DNA virus	HIV
22.	With respect to streptococcal infection	may result in glomerulonephritis 3 weeks post infection
23.	Non-thrombocytopenic purpura is associated with	Meningococemia
24.	With hepatitis B infection	HbeAg is associated with viral replication
25.	In hepatitis B ( <b>Anti-HBs 20wks after HbsAg, HbsAg appears before sxs; of persistant (4% total) 10%-33% get chronic hep, of those, 20-50% get cirrhosis, 10% of those get ca</b> )	Acute infection causes sub-clinical disease in 65% of cases
26.	Hepatitis C	causes chronic hepatitis at a higher rate than hepatitis B
27.	With hepatitis C infection	More than 50 % become chronic ( <b>85%</b> )
28.	With hepatitis E infection	it accounts for a greater than 20 % mortality in pregnant mothers
29.	Clostridium species ( <b>tetani released neurotoxin; botulinum ACh-R blocker; perfringens 1-3day post of inf</b> )	are all spore producing
30.	All the following infections are associated with splenomegaly EXCEPT	leprosy
31.	Bacterial endotoxin	induces the production of TNF
32.	In aseptic meningitis ( <b>viral, self limiting, brain swells, little or no leuks</b> )	the most commonly identified agent is an enterovirus
33.	In infectious disease ( <b>endotox=outer cell wall lipopolysacch (NOT mucoprotein)</b> )	microbes propagating in the gut lumen are accessible to IgA antibodies bacterial adhesins which bind bacteria to host cells have a broad range of host cell specificity
34.	In malaria ( <b>vivax→mild anaemia; inoculated sporozites→liver; falciparum→splenomegaly; cerebral malaria, falciparum RBC plug vessels</b> )	parasites mature in red blood cells
35.	Rickettsial infection	principally affects the endothelium

## Environmental Pathology

1.	Which deficiency causes diarrhoea, dermatitis and dementia (pellagra)	Niacin (B3, in corn only diets)
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2.	A deficiency of which can cause heart failure	Thiamine
3.	Which of the following is <b>NOT</b> associated with B12 (cobalamin) deficiency	No false answer – it is assoc with degen of myelin in dorsal and lat tracts of cord
4.	Smoking is related to all the following except	chronic liver disease
5.	Which tissue is the most sensitive to radiation injury	haematopoietic
6.	A deficiency of which can cause heart failure	Thiamine
7.	Cigarette smoking doesn't increase risk of	Chronic liver disease
8.	In pure Fe deficiency anaemia	Decreased transferrin saturation
9.	Regarding electrical injuries	All body compartments conduct electricity
10.	Regarding electrical/hyperthermic injuries, which is correct	Massive skin burns may cause death
11.	Thiamine deficiency ( <b>dry beri – periph neuropathy, Wernicke-korsakoff</b> )	Arrythmia ( <b>least bad answer, wet beriberi → 4 chamber dilatation</b> )
12.	A deficiency of which can cause heart failure	Thiamine
13.	Which is <b>NOT</b> a cause of megaloblastic anaemia ( <b>some causes: Pregnancy, Folate/B12 deficiency, Neoplasms, Hyperthyroidism</b> )	EBV infection
14.	In iron deficiency	Decreased transferrin saturation
15.	Heroin overdose can give all, EXCEPT	acute myocardial infarction due to vasospasm
16.	Deficiency of which of the below causes diarrhea, dermatitis and dementia?	niacin
17.	Which is true of Iron? ( <b>absorbed duodenum</b> )	it has increased absorption in the presence of Vitamin C it causes pulmonary fibrosis ( <b>pneumoconiosis in smelter workers</b> )
18.	Which of the following tissues is the most susceptible to radiation injury	Lymph(ocytes) and haemopoetic
19.	With electrical injury	amperage of the current is important all body tissues conduct electricity
20.	Which of the following is an anti-oxidant	vitamin E
21.	Which deficiency causes diarrhoea, dermatitis and dementia	niacin
22.	Decreased levels of B12 are associated with all the following EXCEPT	No false answer
23.	Regarding Iron which of the following is INCORRECT (↑ <b>vitamin C, absorbed duodenum, women &lt; iron stores men, transferrin 33% saturated</b> )	most is found in myoglobin (Hb)

## Blood Vessels

1.	Cells in centre of atheromatous plaque	Foam cells
2.	Atherosclerosis ( <b>thickening of intima</b> )	Predominantly affects large and medium sized arteries
3.	Which combination represents the major risk factors for atherosclerosis	Increased lipids, Cigarette smoking, hypertension, diabetes mellitus
4.	Regarding Atherosclerosis: (3 comp: cells/CT matrix/lipid debris; abdominal aorta most common site)	'Atherosclerosis in one artery does not predict the severity in another'
5.	The major Risk factors for atherosclerosis are:	hypertensive, diabetes, smoking and hyperchoesterolaemia
6.	In atherosclerosis the cells at the centre of the plaque are	foam cells
7.	All of the following are major risk factors for atherosclerosis EXCEPT	obesity
8.	Which risk factors have the greatest association with atherosclerosis	hypertension, diabetes, smoking, hyperlipidemia, FHx
9.	Malignant hypertension ( <b>hyperplastic arteriosclerosis=onion skinning; necrotising arteriolitis=onion+fibrinoid+necrosis</b> )	affects 1 to 5 % of sufferers
10.	regarding atherosclerosis	increased incidence in hypothyroidism ( <b>due to hypercholesteraemia</b> )
11.	Regarding hypertensive crisis	1-5 % of hypertensive patients will develop
12.	Regarding the plaque in atherosclerosis; which is correct	mixture of cells and connective tissue matrix ( <b>and intra/extracellular lipids</b> )
13.	Which combination represents the major risk factors for atherosclerosis	hyperlipidaemia, smoking, hypertension, diabetes mellitus

## The Heart

1.	Regarding consequences after an MI; which is correct	loss of contractility in less than 60 seconds
2.	What is the most common histological change seen in MI less than 24 hours (hyperaemic border 3-7 days)	pallor and oedema/ haemorrhage
3.	A patient with a normal blood pressure post MI has an associated	increased right atrial pressure

4.	In compensated cardiac hypertrophy, changes include	diffuse fibrosis
5.	A common cause of fungal endocarditis is	Candida
6.	What is the most common histological change seen in myocardial infarction less than 24 hrs duration	pallor and oedema
7.	With regards to acute coronary occlusion (irreversible cell inj 20-40mins)	striking loss of contractility within 60 secs
8.	Aschoff bodies are classically seen in	rheumatic fever
9.	Regarding cardiac stuff (tricky – wording likely to be pretty average)	Mild to moderate obstructions have higher risk of plaque rupture
10.	In compensated hypertensive heart disease	Interstitial fibrosis
11.	In AMI	Striking loss contractility with 60 seconds
12.	Another AMI	ATP depletion starts in seconds Irreversible damage in 20mins ( <b>½ hour in table, &gt;20-30mins elsewhere</b> )
13.	A man is brought to the ED with heart failure & has a cardiac index of 81. Which is most likely to cause this	<b>Probably looking for beriberi</b>
14.	A man who has chest pain and is thought due to coronary artery vasoconstriction, this is likely to be due to	The action of catecholamines on alpha 1 receptors ( <b>very dodgy question</b> )
15.	Infective endocarditis	Is most commonly caused by streptococci ( <b>50-60%</b> )
16.	Regarding Bradykinin, which is correct?	it causes smooth muscle vasodilation ( <b>GI sm mus contraction</b> )
17.	What is the key microscopic feature of Rheumatic fever?	Aschoff bodies
18.	Regarding the changes to myocardium after MI	pallor at 24 hours
19.	In compensated cardiac hypertrophy changes include	diffuse fibrosis
20.	Endocarditis in IV drug abusers typically	is caused by staph aureus
21.	The commonest cause of fungal endocarditis is	candida
22.	With regard to MI ( <b>½ of deaths in 1hr, 10-13% mortality; LAD 40-50%, RCA 30-40%, LCx 12-20%</b> )	No correct answer
23.	Regarding pericarditis ( <b>constrictive often follows suppurative, primary is viral, haemorrhagic is malign neoplasm, fibrinous post MI</b> )	serous pericarditis may be due to uremia
24.	Patient who has a normal blood pressure post MI must have	increased right atrial pressure
25.	<b>Acute endocarditis (&gt;50% mortality)</b>	is caused by virulent micro-organisms
26.	Congestive cardiac failure may be caused by	thiamine deficiency
27.	Following myocardial infarction	ATP is down to 50% at 10 minutes
28.	An adult male with an ejection fraction of 80 % could be due to ( <b>this is dodgy, hypertrophic cardiomyopathy (=diastolic failure) would be better</b> )	thiamine deficiency
29.	The cause of fluid retention peripherally with congestive cardiac failure is	increased aldosterone
30.	Rheumatic carditis is associated with	Aschoff bodies
31.	Bradykinin ( <b>vascular sm mus dilation, GI sm mus contraction</b> )	kallikrein causes prohormone degradation to produce bradykinin

## Blood Cell Disorders

1.	Myelofibrosis	causes leukoerythroblastic anaemia
2.	Myelofibrosis repeat	Leukoerythroblastic anaemia
3.	Thrombocytopenia	occurs commonly in HIV
4.	Macrocytic anaemia is associated with all the following except	EBV
5.	Regarding pernicious anaemia	it is associated with low B12

## The Lung

1.	In lobar pneumonia ( <b>congestion→red→grey→resolution</b> )	get a change from red to grey hepatization
2.	Regarding nonatopic (intrinsic) asthma	is mainly triggered by viral respiratory illnesses
3.	Which type of emphysema is most commonly associated with smoking and chronic bronchitis	centrilobular
4.	The black colour seen in chronic smokers lungs is due to	pigment in alveolar macrophages
5.	Regarding resorption atelectasis; which is correct	involves oxygen absorption
6.	Which type of emphysema is most commonly associated with smoking and chronic bronchitis	centriacinar
7.	Chronic pulmonary oedema is characterised by	haemosiderin loaded macrophages

8.	All cause compressive atelectasis EXCEPT	Asthma (resorption atelectasis via mucus plugging)
9.	Which is the most common form of emphysema in smokers	centriacinar
10.	The black colour seen in chronic smokers lungs is due to	pigment in alveolar macrophages
11.	Emphysema due to smoking causes	Centrilobular
12.	Which type of emphysema is most commonly associated with smoking and chronic bronchitis	Centriacinar
13.	Regarding squamous cell carcinoma (5yr surv=15% for all lung ca, 40% for localized squamous/adenoca, men)	Is commonly associated with cigarette smoking
14.	What happens to particles 1-5 micrometers in diameter	Phagocytosis by pulmonary alveolar macrophages
15.	The pathogenicity of M. Tb is due to	Hypersensitivity response to products of Tb bacteria
16.	Obstructive atelectasis	involves the reabsorption of air
17.	Regarding non atopic asthma	Is mainly triggered by viral respiratory illnesses
18.	Regarding the use of steroids in Asthma (given mane for diurnal variation)	they inhibit cytokines
19.	All of the below are changes seen in Asthma (NO FALSE ANSWER GIVEN):	Charcot leydon crystals = crystals of eosinophil granule debris Curschmann's spirals = mucus plugs
20.	All of the below are changes seen in Chronic Bronchitis EXCEPT:	decreased goblet cell number ( <b>goblet cell metaplasia</b> )
21.	Regarding the pathogenicity of TB...it is due to:	hypersensitivity reaction
22.	ABG to interpret: An ABG shows: ph 7.5, PCO2 50, HCO3 - 10 (ie: a metabolic alkalosis)	may be due to diuretics
23.	Squamous cell lung carcinoma	is most commonly associated with smokers
24.	Intrinsic asthma is commonly triggered by	viral infections
25.	Lobar pneumonia	involves morphological changes of red to grey hepatisation
26.	Chronic bronchitis is characterised by	mucus gland hypertrophy
27.	All the following cause compressive atelectasis EXCEPT	asthma
28.	Which is NOT TRUE of bronchogenic cysts	they are often associated with bronchioles ( <b>RARELY</b> )
29.	Chronic bronchitis major morphological change involves	increased mucosal gland depth ( REID index)
30.	Regarding bronchogenic carcinoma (mets to kidney 50% then liver/brain/bone, Adenocarcinoma most common, surgery doesn't help SCC)	it most often arises around the hilum of the lung
31.	In emphysema	the protease-antiprotease mechanism is the most plausible explanation of the disease
32.	In chronic bronchitis (↑ <b>goblet cells in SMALL airways, smoking causes, alveolar macrophages, dysplasia</b> → <b>plugging, inflamm and fibrosis</b> )	the hallmark is hypersecretion of mucus in the large airways
33.	In bronchial asthma	Primary mediators include eosinophilic and neutrophilic chemotactic factors
34.	In bacterial pneumonia ( <b>Klebsiella in alcoholics, alveolar clearance by cough, mucocilliary escalator, macrophages</b> )	patchy consolidation of the lung is the dominant feature of bronchopneumonia
35.	Smoking is associated with all the following diseases EXCEPT	chronic liver disease
36.	Smoking is associated with	particle deposition in alveolar macrophages
37.	In pulmonary tuberculosis	Langhans cells occur in coalescent granulomas
38.	The commonest site of primary TB lesion in lung is	lower zone of upper lobe

## Liver & Biliary Tract

1.	Conjugated hyperbilirubinaemia results from (Gilberts = ↓ expression UGT1A1; physiol = ↓ activity UGT1A1+breastmilk has βglucuronidase activity)	Cholestasis
2.	Regarding jaundice (unconj cannot get to urine)	in unconjugated, bilirubin is tightly bound to albumin
3.	Repeat on bilirubin combinations	Unconjugated tightly bound to albumin
4.	Regarding hepatitis C	Greater than 50% become chronic
5.	Conjugated hyperbilirubinaemia results from	Cholestasis
6.	Regarding hepatic failure (loss of 80-90%, ↓ formation of urea from ammonia→↑ ammonia levels)	The liver is the predominant site of synthesis of albumin
7.	Regarding liver failure (70-95% mortality)	can be caused by tetracyclines
8.	With regard to jaundice:	Unconjugated BR is tightly bound to albumin
9.	What is the cause of fatty liver?	protein malnutrition



10. Regarding the morphology of Cirrhosis	there is disrupted vascular architecture ( <b>reorganised, disordered</b> )
11. With regards to jaundice	Unconjugated bilirubin is tightly bound to albumin
12. In cirrhosis	the Ito cell is a major source of excess collagen
13. Cirrhosis is associated with	reorganised liver vasculature with scarring
14. Oesophageal varices ( <b>distal 1/3, 90% cirrhosis pts regardless of cause, less than 50% of haematemesis</b> )	have a 40 % mortality during the first episode of rupture

## Pancreas

1. Which of the following may occur in acute pancreatitis ( <b>hypocalcaemia</b> )	Glycosuria ( <b>10% of all cases</b> )
2. In acute pancreatitis ( <b>10-20% idiopathic, 5% gallstone pts develop pancreatitis, gallstones present in 35-60%</b> )	trypsin activates the bradykinin system
3. Chronic pancreatitis causes	Steatorrhoea
4. Acute pancreatitis ( <b>gallstones and beer 80%, affects subcutis fat too</b> )	Intraductal activation of enzymes is important
5. In acute pancreatitis ( <b>10-20% idiopathic, 5% with gallstones→pancreatitis, gallstones in 35-60%</b> )	Trypsin plays a central role in the activation of the kinin system
6. Which of the following may occur in acute pancreatitis	Glycosuria
7. All are true about chronic pancreatitis ( <b>10% pseudocysts, diabetes may develop, alcohol cause</b> ) EXCEPT	is associated with pancreatic carcinoma
8. Regarding acute pancreatitis, all are ACUTE effects ( <b>pseudocysts, ARDS, low platelets</b> ) EXCEPT:	DM ( <b>chronic, despite glycosuria in acute</b> )
9. Regarding acute pancreatitis:	the pathogenesis is to do with trypsin activation
10. Regarding pancreatitis ( <b>beer makes concrete in duct, elastase help cause badness</b> )	trypsin is implicated as an activator of the kinin system
11. In acute pancreatitis	fat necrosis occurs in other intra-abdominal fatty deposits
12. In pancreatitis,	trypsin activates the bradykinin system

## Renal System

1. Regarding acute tubular necrosis	non-oliguric renal failure follows a more benign course
2. In the diagnosis of renal hypertension	onion skinning is proportional to the degree of renal failure
3. Regarding acute tubular necrosis	non-oliguric renal failure follows a more benign course
4. Acute glomerulonephritis ( <b>95% recover, Gp A β-haemolytic, antibody mediated</b> )	Occurs post 1 – 4 weeks impetigo
5. In the diagnosis of renal hypertension	Onion skinning is proportional to the degree of renal failure
6. Ischaemic ATN	Is associated with tubular cast obstruction
7. Which of the following is true in Nephrotic syndrome ( <b>Na/H<sub>2</sub>O ret<sup>n</sup>, hypovolaemia, not just albumin, NOT HTN</b> )	Alteration to serum lipid levels (increased)
8. Regarding Acute Renal failure, which is true?	A Strep A β haemolytic infection may occur 3 -4 weeks beforehand
9. Which of the following is NOT a nephrotoxic cause of ATN?	erythromycin
10. What are pathological changes of ATN?	casts in lumen
11. Concerning acute tubular necrosis ( <b>cephalosporins can cause, nephrotoxic have good prognosis</b> )	casts are found in the loop of Henle (&DCT)
12. Regarding acute tubular necrosis ( <b>hypoK in recovery, ischaemic outer medulla cells, up to 50% don't have oliguria</b> )	non-oliguric has a better recovery
13. Ischaemic tubular necrosis is associated with ( <b>skip necrosis, oliguria during maintenance, rupture of BM</b> )	tubular cast obstruction
14. Hypertensive renal disease	onion skinning correlates with degree of renal failure
15. Regarding the hepatorenal syndrome ( <b>concentrated urine with low sodium, ↓renal perfusion pressure &amp; symp activation</b> )	the urine is hyperosmolar
16. Urolithiasis ( <b>cysteine calculi are genetic, Ca makes 70% of calculi</b> )	Struvite stones are made up of magnesium-ammonium-phosphate
17. In pyelonephritis ( <b>papillary necrosis and perinephric abscess in special circumstances</b> )	85 % of infections are caused by G-ve bacteria

## Endocrine

1. Which is correct for the pituitary gland	LH – anterior – basophil
2. Which is characteristic of Type 2 diabetes	get a decrease in peripheral insulin receptors
3. Pituitary adenomas cause	Hypothyroidism ( <b>mass effect</b> ) Acromegaly ( <b>GH secretion</b> )
4. The pathogenesis of Type 1 diabetes includes	auto immune insulinitis
5. Which is correct for the pituitary gland	LH: anterior: basophil

6.	Cushings disease (ACTH) is associated with ( <b>hirsutism; truncal obesity</b> )	osteoporosis
7.	Which is more common in people with diabetes mellitus ( <b>Mucormycoses, TB, Gas gangrene, Carbuncles</b> )	All of the above
8.	Diabetes mellitus type 2	have a decreased no of receptors
9.	Cushings disease ( <b>↑neutrophils due to ↓margination</b> )	Osteoporosis
10.	Regarding glucocorticoids (WTF??)	Decrease capillary permeability
11.	Regarding type II diabetes	Is due to decreased insulin receptors
12.	Which is true of the pituitary gland	anterior—LH—basophils
13.	Pituitary adenoma may cause	Hypothyroidism ( <b>mass effect</b> ) Acromegaly ( <b>GH</b> )
14.	Which is true of the pituitary	anterior—LH—basophils
15.	Pathogenesis of type 1 diabetes is associated with ( <b>twin concordance 30-70%</b> )	auto-immune insulinitis
16.	Which of the following is characteristic of type 2 diabetes ( <b>twin 50-90%</b> )	decreased peripheral receptor sensitivity
17.	Type 2 diabetes is characterised by	normal or increased blood insulin levels ( <b>initially, until burnout</b> )
18.	In type 1 diabetes ( <b>mumps, measles, CMV, EBV suspected; genetic susceptibility supported by evidence</b> )	associated organ-specific auto-immune disorders are common
19.	Cushing syndrome is associated with ( <b>hypertension</b> )	osteoporosis

## Musculoskeletal System

1.	Which of the following is a disturbance of bone mineralisation ( <b>porosis ↓ amount, petrosis brittle, pagets confused, HPOA=clubbing</b> )	ricketts
2.	Myositis ossificans in skeletal muscle ( <b>all true(ish)</b> )	follows resolution of a muscle tear resembles osteosarcoma in the elderly resembles bone
3.	Which of the following is a disturbance of mineralization homeostasis	Ricketts
4.	Osteomalacia (=ricketts)	(1,25)2DH3-calciferal deficiency
5.	Stress fractures	Result from repetitive stressors or abnormal axial loading
6.	Hypothyroidism is associated with all of the following EXCEPT	decreased hair growth ( <b>coarse</b> )
7.	Myelofibrosis	causes leukoerythroblastic anaemia
8.	Stress fractures	result from repetitive stresses or abnormal axial loading
9.	Myositis ossificans	Morphologically resembles osteosarcoma