Please note – this learning resource has been produced by the GUMS Academic Team. It is possible that there are some minor errors in the questions/answers, and other possible answers that are not included below. Make sure to check with other resources.

What are the likely morphological classification of anaemia seen in the following cases (eg. Macrocytic, microcytic and normocytic) and discuss why

1. **A 20 year old woman complaining of fatigue, lethargy and occasional shortness of breath, has just found out she is pregnant, she eats a vegetarian diet and has suffered from heavy menstrual bleeding.**
2. **A 6 year old boy who really likes Mediterranean food (because that’s where his family is from but otherwise eats a stable diet for a 6 year old) and has been for haemoglobin electrophoresis showing Beta- Thalassaemia**
3. **A 30 year old women diagnosed with Crohn’s disease (*an inflammatory bowel disease that affects transmural gastrointestinal tract and impairs absorption*) that is particularly affecting her terminal ileum *(hint (this is covered in systems): Iron (fe = duodenum) fist ( folate = jejenum) buddy buddy (bile and B 12 = terminal ileum)***
4. **A 50 year old man self-presented to the ED who was just stabbed 8 times in the abdomen because he forgot to pay his friend for that sick bike they sold him… and now is bleeding profusely**
5. **A 70 year old woman who is currently receiving dialysis for failing kidneys**

**ECG:**

1. **What does the P wave represent?**
2. **What does the T wave represent?**

**Lub dub sounds:**

1. **S1 is heard due to**
2. **S2 is heard due to**

**11) Explain the difference between essential and secondary hypertension with examples**

**12) Explain the difference between primary and secondary hyperlipidaemia with examples**

**PART 2**

1. **What is the mechanism of action of nitrates (Nitroglycerin) in regards to the heart and coronary vessels?**
2. **During a normal cardiac cycle: what is the state of heart valves during diastole?**

**It’s your second night at the ED as an intern, still feeling excited about your job you see Mr Sanders, a 58 year old, who arrives clutching at his chest and complaining of chest pain.**

**Question 3:**

**Name 6 medical conditions that could cause My Sander’s chest pain (you may not have covered all 6):**

Vascular (2):

Cardiac (2):

Respiratory (1):

GI (1):

**Question 4:**

**What is the main clinical difference between Stable and Unstable Angina?**

**As a Griffith Intern you take a very thorough history and discover Mr Sanders is an ex military Colonel who started a Deep Fried Chicken business after returning home from the war. 5 years ago Colonel Sanders was informed he must improve his diet, so he decided to start smoking to reduce his appetite. His appetite didn’t subside but he continued to smoke.**

**Question 5:**

**Name 2 Modifiable and 2 Non-Modifiable Risk Factors Mr Sanders has for his chest pain**

**Modifiable:**

**Non-Modifiable:**

**Question 6**

**Number the following in the correct order which describes the formation and development of an atherosclerotic plaque (1-10)**

|  |  |
| --- | --- |
| LDLs (low density lipids) become oxidised and release chemotactic agents.  |  |
| Endothelial cells become activated and macrophages produce chemicals that activate smooth muscle cells and cause their proliferation and migration into the tunica intima blood vessels. |  |
| A fibrous cap forms, containing ECM (extracellular matrix) proteins such as collagen and fibrin  |  |
| There is a loss of endothelial integrity and initiation of the inflammatory process  |  |
| LDLs move from the lumen of the blood vessels into its tunica media |  |
| Macrophages engulf the oxidised LDLsm transforming into foam cells.  |  |
| Monocytes are attracted to the area |  |
| The lipid core can become necrotic.  |  |
| The fibrous cap hardens and has the potential to rupture, this triggers the formation of a thrombus.  |  |
| Monocytes migrate between the tight junctions of the endothelial cells to reach the sub-endothelial space and differentiate into macrophages.  |  |

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