

Divine Intervention Episode 1



Some MS4

1

Most commonly occluded vessel in an MI.
Infarcted vessel causing AV block. Papillary muscle most susceptible to rupture.
Coronary vessel dominance.

2

First line treatment of psoriasis and acne.
15:17 translocation association. Pregnant
women. The sun and skin cancer (UV ray
types, blocking agents).

3

Hyponatremia, hypotension, and hyperkalemia in a patient with a history of a recent, severe, N. Meningitis infection.

Most common cause (MCC) of this disorder in the US/developing countries.

Skin, acid-base, and CBC anomalies in this disorder (w/mechanisms)

4

Skin and K balance findings in secondary adrenal insufficiency. Sequential testing for adrenal insufficiency. ACTH and 11-deoxycortisol levels in selected disorders with metyrapone exposure (normal, primary and secondary AI). Tx of primary and secondary AI.

5

7 day old with a prenatal history of a screening US revealing increased nuchal translucency has failed to pass meconium. Diagnosis? Pathophysiology? Layers of the GI tract. Distinguishing features of the duodenum, terminal ileum, and esophagus (muscle, serosa/adventitia). Increasing the surface area for absorption in the small intestines.

6

A 7 year old child in a developing country with a recent history of treatment of severe meningitis presents with pallor and fatigue. A predominance of adipocytes is observed on bone marrow aspiration.

Diagnosis? Cause? Retic count and EPO levels?

Other drug causes? Aplastic crisis in a sickle cell patient. Cafe au lait spots + small head + hypoplastic thumbs + Type 2 RTA. Diagnosis?

7

Recurrent UTIs in a patient on chronic tx for T2DM. Pathophysiology? Shared xtic b/w the PCT and the small intestine. The role of PTH and Angiotensin 2 in the intestinal brush border. RTA associated with Dorzolamide use.

8

Infarcted CNS structure in a chronic alcoholic (+ syndrome). Atrophied CNS structure in a patient with a CAG trinucleotide repeat disorder. Arterial ischemia associated with contralateral loss of all sensory and motor function. Lucid interval and subsequent coma in an athlete hit in the head with a bat. Crescent shaped lesion in a “shaken baby”.

9

Proximal muscle weakness + skin findings in a smoker with new onset hyponatremia and a CT detected thoracic mass. Diagnosis? Poly vs Dermatomyositis (skin findings, involved cells, histology findings, age distribution). Associated autoantibodies. Elevated serum markers. Diagnostic testing (2). Treatment strategies.

10

Pleural inflammation (w/pain and w/o pain).

Transudative vs exudative effusions

(pathophysiology, Light's criteria). Sudden onset chest pain in a patient with a history of emphysema.

Dullness to percussion w/chest drainage revealing fluid of high lipid content. Recent victim of a stab wound -> auscultation reveals dullness to percussion and decreased tactile fremitus.

11

The 3 zones of the prostate. Overgrowing zone in BPH (driving hormone, pharmacological mgt). Common location of prostatic malignancy. Blood supply to the prostate. 55 yo M with a history of treated prostate cancer presents with low back pain. MRI/bone scan reveals a singular lumbar lesion (Diagnosis, pathophysiology, treatment strategies).

12

45 yo M presents with 10/10, sudden onset abdominal pain. EKG reveals an irregularly irregular interval. Diagnosis? Pathophysiology? Most commonly involved vessel? Branches of this vessel? Differentiating Nutcracker and SMA syndromes.

13a

Comparing means of 2 groups (of 3 groups?).

Calculating differences b/w categorical variables.

When are confidence interval results insignificant (in mean difference and relative risk comparisons)?

Discussion of the mean, variance, standard deviation, standard error of the mean, confidence intervals (with interpretation and calculation).

Correlation coefficients.

13b

Assuming a class mean score of 80 on Step 1, a sample size of 16, and a standard deviation of 5. How many students scored above the 95th percentile? This value falls outside how many standard deviations? How can the power of a study be increased?