

MCM Practice Questions: Lecture Day 3

karan gidwani

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Lecture 12: FA degradation

1) Karan just ate a carbohydrate rich meal of pasta. His liver converts the excess glucose into triglycerides. How are they transported?

- (A) HDLs
- (B) LDLs
- (C) VLDLs
- (D) Chylomicrons

2) A patient is found to have a defect in mitochondrial Beta-oxidation. Luckily, the body has another pathway that can take over if mitochondrial oxidation is lacking. Where in the cell would this alternate process take place?

- (A) Smooth ER
- (B) Rough ER
- (C) Peroxisomes
- (D) Lysosomes

3) While on vacation in Switzerland, Karan eats a lot of Gruyere. One of the fatty acids in the cheese is called Myristic Acid, a 14 carbon FA. What is needed for beta oxidation of this FA to take place?

- (A) S-adenosyl-methionine
- (B) HDLs
- (C) Carnitine
- (D) Nothing is needed

4) A patient presents to the ED with hypoketotic hypoglycemia along with high urine carnitine and low plasma free carnitine. What is the most likely diagnosis?

- (A) Primary Carnitine Deficiency
- (B) CPTIA deficiency
- (C) CAT deficiency
- (D) CPTII deficiency

5) While on vacation in Switzerland, Karan eats a lot of Gruyere. One of the fatty acids in the cheese is called Myristic Acid, a 14 carbon FA. How many ATP equivalents can be generated from the metabolism of one FA?

- (A) 78
- (B) 92
- (C) 106
- (D) 120

6) Very long chain and branched chain fatty acids are oxidized in peroxisomes. How are branched chain FA's oxidized?

- (A) Alpha Only
- (B) Beta Only
- (C) Alpha then Beta
- (D) Beta then Alpha

7) Karan is on a safari in Tanzania when he gets lost in the Serengeti. He is able to find a source of water but has not found a stable supply of food. The last time he ate was 4 days ago. What source of energy will his brain use to function?

- (A) Glucose
- (B) Ketone bodies
- (C) FA's
- (D) Lactate

8) Purdue basketball finally wins a national championship so Karan and his friends decide to celebrate by drinking. He irresponsibly takes 10 shots in 1 hour. What condition can we expect to see in his blood? (hint: his TCA cycle is inhibited)

- (A) Hypoketosis
- (B) Ketoacidosis
- (C) Hypoglycemia
- (D) Hyperglycemia