EXAMINATION: HEPATOBILIARY SCINTIGRAPHY

Name_____ Date _____

1. Concerning Tc-99m IDA radiopharmaceuticals, which of the following statement is true?
    a. The target organ (i.e. organ with the highest radiation dose) is the gallbladder
    b. The target organ is the large bowel
    c. The Tc-99m IDA complex is formed by the addition of Tc99m pertechnetate to the IDA-containing vial, followed by heating in a waterbath of 95-100˚F for 5 minutes
    d. The Tc-99m IDA complex is stable for 30 min after reconstitution
    e. Both b and c are true

2. Which of the following statements is true?
    a. The mechanism of uptake of Tc99m IDA is by Kupffer cell extraction
    b. Tc99m mebrofenin has better hepatic extraction than Tc99m DISIDA
    c. The chemical structure of IDA radiopharmaceuticals is similar to the diphosphonates.
    d. With hepatic insufficiency, the alternate route for IDA radiopharmaceuticals is via the bowel
    e. All statements (a, b, c, d) are true

3. Concerning patient preparation for hepatobiliary studies, which of the following statements is true?
    a. The patient should fast for at least 4 hours, but not longer than 24 hours
    b. A history of possible drug ingestion, e.g. opiates, should be obtained
    c. If sincalide is administered it should be injected i-v as a rapid bolus
    d. Both a and b are true
    e. All statements (a, b, c) are true

4. Concerning the normal image interpretation after Tc-99m HIDA administration, which of the following statements is true?
    a. Blood pool activity in the heart is normally seen during the first 15 minutes post-injection
    b. Delayed (>60min) biliary-to-bowel transit is seen in 1-2% of normal subjects
    c. On a blood flow study, liver activity is seen 6-8 seconds before the spleen
    d. All statements (a, b, c) are true
    e. All statements (a, b, c) are false

5. Which of the following are causes of false positive cholescintigraphy for acute cholecystitis?
    a. Intercurrent severe illness
    b. Severe hepatic insufficiency
    c. Hyperalimentation
    d. All (a, b, c) may be associated with false positive cholescintigraphy for acute cholecystitis
    e. Neither a, b or c is associated with false positive cholescintigraphy for acute cholecystitis

6. The "rim sign"
    a. Is described as a specific sign of acute cholecystitis
    b. Is probably due to delayed tracer clearance in the liver adjacent to the gallbladder fossa
    c. Has been described in gangrene of the gallbladder
    d. All statements (a, b, c) are true
    e. All statements (a, b, c) are false

7. The most common cholescintigraphic pattern in chronic cholecystitis is (pick one)
    a. Normal cholescintigraphy
    b. Delayed gallbladder filling (>60min)
    c. Delayed biliary to bowel transit time (>60min)
    d. Non-visualization of the gallbladder at 4 hours
    e. Gallbladder filling defects due to stones

8. Concerning morphine sulfate augmentation of cholescintigraphy, which statement is true?
    a. Morphine decreases intraluminal pressure at the Sphincter of Oddi
    b. Morphine administration is contraindicated if the serum amylase is elevated
    c. Morphine should optimally be given before the tracer is visualized in the bowel
    d. All statements (a, b, c) are true
    e. All statements (a, b, c) are false

9. In complete common bile duct obstruction, the classic scintigraphic finding is (pick one)
    a. Normal cholescintigraphy
    b. Gallbladder visualizes but no tracer transit into the bowel
    c. No gallbladder, biliary tree or bowel visualization

d. Semental narrowing of the common bile duct
e. Intraluminal filling defect of the common bile duct

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10. Regarding acute acalculous cholecystitis which statement is true?
    a. The sensitivity of detection with cholescintigraphy is about 90%
    b. If the gallbladder has filled and CCK is given, the EF will almost always be greater than 35%
    c. A radiolabeled wbc study may be helpful in confirming the diagnosis
    d. Statements a and c are true
    e. All statements (a, b, c) are true

ANSWER KEY (don’t distribute)

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