ANSWERS: CHAPTER 9

MATCHING

1. d  
2. c  
3. a  
4. f  
5. e  
6. b  

IMAGE LABELING

1A. Esophagus  
1B. Transverse colon  
1C. Descending colon  
1D. Small intestine  
1E. Sigmoid colon  
1F. Anus  
1G. Rectum  
1H. Cecum  
1I. Ascending colon  
1J. Duodenum  
1K. Stomach  
2A. Mucosa  
2B. Submucosa  
2C. Muscularis propria  
2D. Subserosa  
2E. Serosa

MULTIPLE CHOICE

1. b 6. c 11. d 16. b  
2. a 7. d 12. c 17. d  
3. c 8. a 13. a 18. c  
4. c 9. a 14. b 19. b  
5. b 10. c 15. d 20. c

FILL-IN-THE-BLANK

1. Air or gas  
2. Endoluminal; transabdominal  
3. Five; fluid-mucosa; mucosa; lamina propia; muscularis mucosa; submucosa; muscularis propria; serosa  
4. Dysphagia  
5. Medial; anterior; pancreas  
6. Mucosal  
7. Duodenal; lesser curvature  
8. Valvulae conniventes  
9. Obstruction  
10. Air; fluid; somewhat increased  
11. C; fluid  
12. Children; adults; mass or lesion  
13. Thickening; mesentery; bull’s eye or target  
14. Cecum; 6; 2  
15. McBurney’s; iliac spine  
16. Graded compression  
17. Abscess; peritonitis; rupture  
18. Mesenteric lymphadenitis; 4  
19. Periphery; haustral; 4 to 9  
20. Mucosal; submucosal; rectum

SHORT ANSWER

1. Transrectal examinations can be used to evaluate the rectal wall and perirectal areas and can be used to stage rectal tumors with greater accuracy than transabdominal examinations. Endosonography can be used to evaluate the upper GI tract, including the esophagus, stomach, and duodenum, which are not traditionally evaluated with transabdominal sonography due to their location and presence of bowel gas. Endosonography is excellent at visualizing the layers of the bowel wall. The pancreatic head can also be evaluated with endosonography.

2. When the stomach is the focus of the abdominal sonogram, having the patient drink water through a straw can sometimes help visualize the stomach and distinguish the stomach from a cystic abdominal mass such as a pancreatic pseudocyst. Turning the patient into the RLD position moves fluid into the antrum of the stomach and displaces air. Turning the patient into the LLD position improves visualization of the fundus by filling that area with fluid and displacing air from the fundal region. Scanning the patient upright may also be helpful. Giving the patient glucagon slows emptying of the stomach contents and can provide more time for the evaluation. Drinking of fluids can also help with visualization of the duodenum.

3. When searching for the appendix, the right colon is identified and followed down to the cecum. Steady pressure on the transducer is used to displace gas-filled bowel loops. The normal appendix is a long, tubular structure seen extending from the cecum. McBurney’s point can be used to locate the appendix by drawing an imaginary line from the right anterosuperior iliac spine to the umbilicus. The appendix is typically found at the midpoint of this line. When the appendix is inflamed, it can frequently be located by finding the point of maximum tenderness and evaluating for the presence of rebound tenderness. A graded compression technique is used to find the area of maximum tenderness.
IMAGE EVALUATION/PATHOLOGY

1. The small bowel is dilated and filled with fluid. Given the history of pancreatitis, a diagnosis of ileus is most likely. Valvulae conniventes are seen.

2. Intussusception. A bowel lesion is the cause of intussusception in the majority of adult cases.

3. The bowel wall is thickened and hypoechoic. The ileum is most often affected, and inflammation typically begins in the submucosa and spreads throughout.

4. Appendicolith or fecolith. The normal wall should measure no more than 2 mm and the normal AP diameter should measure less than 6 mm.

5. A large, well-circumscribed mass is seen arising from the wall of the stomach. Fluid is seen in the lumen of the stomach. Gastric carcinoma arises from the mucosa and spreads into the submucosa and muscularis propria.

CASE STUDY

1. A dilated appendix is seen. In the transverse section, the appendix appears as a target lesion. The diagnosis is appendicitis. Abscess formation and generalized peritonitis are the most common complications. Rupture of the appendix may occur, but abscess formation can occur even without rupture.

2. Diverticula within the bowel wall. The rectosigmoid colon is most commonly affected. Diverticulitis, abscess formation, and rupture of the diverticula are complications associated with diverticulosis.