ANSWERS: CHAPTER 8

MATCHING

1. a 8. q 15. m 22. c
2. v 9. aa 16. b 23. t
3. e 10. x 17. u 24. h
4. o 11. j 18. i 25. p
5. l 12. s 19. w 26. r
6. z 13. y 20. k 27. g
7. d 14. f 21. n

IMAGE LABELING

1. Nabothian or retention cyst
2. polyp
3. increase of luteinizing hormone
4. increase of estrone
5. decrease of progesterone
6. subserosal
7. serosal
8. intracavity (prolapsed)
9. pedunculated
10. intraligamentary
11. submucosal

MULTIPLE CHOICE

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

FILL-IN-THE-BLANK

1. biopsy
2a. hysteroscopy and dilation and curettage (D&C)
2b. oral progesterone or via intrauterine device (IUD)
2c. hysterectomy
3a. adhesions
3b. synechiae
4. uterine dehiscence
5a. 20
5b. 30
6a. using the lowest frequency transducer possible
6b. increasing the overall and time gain compensation (TGC)
6c. increasing the output power because myomas tend to attenuate the sound beam
7. abscess
8. hematoma
9a. myomas
9b. leiomyomas
9c. fibromyomas
10. hemorrhage
11a. 6
11b. outer
12a. hydrosalpinx
12b. pyosalpinx
13. parasitic myoma
14a. physiologic
14b. functional
15a. right
15b. absence
16. estrogen
17. peritoneal inclusion cysts
18a. smooth muscle cells
18b. connective
19a. 6
19b. 8
20a. benign
20b. malignant

SHORT ANSWER

1. Endometrial hyperplasia is an excessive growth of the endometrium.

Endometrial hyperplasia presents as a thickened, homogenous, heterogenic endometrium with small cystic areas. The upper limit of 14 mm is seen in premenopausal women, 10 mm in women on tamoxifen, and 8 mm in postmenopausal women. All measurements include the anterior and posterior layer of the endometrium.

Hyperplasia of the endometrium is common in patients with diabetes, obesity, persistent anovulatory cycles, and polycystic ovary disease. Estrogen-producing ovarian neoplasms, such as the thecoma and granulose cell tumor, also result in the development of a thick endometrium.

2. A hysterosalpingogram is performed by entering a catheter into the cervix. Contrast material is injected through the catheter into the uterus using fluoroscopy for visualization. Injected contrast outlines and fills the uterine cavity and patent fallopian tubes. This procedure should occur during the first portion (day 7 to 12) of the woman’s cycle to avoid an early pregnancy.

3. If surgery is required, different approaches are used depending on the position and size of the myomas. Imaging the leiomyoma becomes important as large myomas can disrupt uterine contour more than smaller ones. It is important to indicate the location of myomas, whether subserosal, intramural, and/or submucosal, and whether distortion of the endometrial lining is present. Multiple large subserosal myomas may result in an enlarged uterus with a lobulated contour; large intramural and submucous myomas may distend the uterine cavity and distort the endometrial lining.
4. Because the symptoms were noted postoperatively and the ultrasound and CT scan findings identified a probable abscess, this patient could have experienced fever, tenderness, pain, surgical site swelling, chills, malaise, and weakness. Typical laboratory findings associated with an abscess include increased white blood count (WBC), sepsis, and possibly positive bacterial cultures.

5. Benign cystic teratomas are the most frequently seen ovarian tumor in women younger than 20. Teratomas contain three germ cell layers (ectoderm, mesoderm, endoderm). They contain teeth, hair, and glandular tissues (sweat, apocrine, sebaceous) and occasionally neural and thyroid tissue. Dermoids are composed of ectodermal tissue only.

**IMAGE EVALUATION/PATHOLOGY**

1. The uterus image was collected using an endovaginal approach. The midline structure demonstrates thickened endometrium (arrows) typically seen with endometrial hyperplasia.

2. This image is demonstrating a uterine myometrium and was obtained in 3-D (multiplanar). The view next to label 1 is transverse, label 2 is a sagittal image, and label 3 is coronal (which is a 3-D reconstruction).

3. The star is placed on an intrauterine synechiae. The arrow points to an adhesion.

4. Open arrow is pointing to the uterine endometrium. The thin arrow is directed at a submucosal myoma that is distorting the endometrium.

5. Image A is a pelvic radiograph showing a calcified mass just to the left of midline (black arrow). Calcifications in fibroids often look like popcorn. Image B (on a different patient) displays a calcified, echogenic myoma posteriorly.

6. Image A demonstrates the appearance of loculated complex ascites. Image B demonstrates an abscess found at an incision site. Image C shows a surgical seroma.

**CASE STUDY**

1. Patient E presented to the emergency department with typical symptoms of appendicitis. The WBC count is used to determine the presence of an infection and reinforced the likelihood of appendicitis. Ultrasound imaging demonstrated a blind-ended tubular structure within the right lower quadrant, longitudinally. A transverse image of the same appendix illustrates the characteristic bulls-eye appearance of an inflamed bowel (appendix).

Note: The L8-4 transducer used in this study helped separate the tissue layers due to the increased image detail found with the higher frequency transducer. This increase in quality had to be balanced with the decrease in penetration seen at this frequency.

2. These images demonstrate the fluid/solid level commonly seen with teratomas. Posterior shadowing within the mass indicates areas of increased density within the mass, which correlate with expected findings of calcific densities and echogenic foci. The patient’s symptoms match typical signs associated with a teratoma (dermoid).