

ANSWERS: CHAPTER 9

MATCHING

1. aa  12. ee  23. f  34. l
2. ii  13. y  24. dd  35. n
3. m  14. q  25. v  36. kk
4. b  15. c  26. cc  37. x
5. g  16. ll  27. jj  38. d
6. w  17. bb  28. gg  39. u
7. nn  18. r  29. k  40. hh
8. j  19. h  30. z  41. ff
9. e  20. t  31. p
10. s  21. o  32. mm
11. oo  22. i  33. a

IMAGE LABELING

1. superficial cells
2. parabasal cells
3. basal cells
4. basement membrane
5. HPV effect
6. normal
7. mild
8. moderate
9. severe
10. dysplasia
11. carcinoma in situ
12. invasive cancer
13. normal villi
14. abnormal villi
15. Stage Ib 1
16. Stage IIb
17. Stage IIIa
18. Stage IIb
19. Stage IIIb (urinary)
20. Stage IVa
21. Stage IVb

MULTIPLE CHOICE

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

FILL-IN-THE-BLANK

1a. tamoxifen
1b. breast
2. 18
3a. low
3b. high
4a. bladder
4b. rectum
5. MRI

6. leiomyosarcoma
7. hydrops tubae profluentes
8a. ovarian
8b. inflammation
9. Papanicolaou (Pap) smear
10. squamocolumnar junction
11a. tumor
11b. stage
11c. age
12a. translabial
12b. transperineal
13a. leiomyoma
13b. polyps
13c. carcinoma
14. molar
15a. 46
15b. 44
15c. 2
16. invasive mole
17. chorionic villi
18a. epithelioid trophoblastic tumors
18b. placental-site trophoblastic tumors
19. total hysterectomy
20. PCOS (polycystic ovarian syndrome)

SHORT ANSWER

1. Women who are 50 pounds heavier than their ideal weight have a two- to threefold increased risk of developing endometrial cancer. Nulliparity also increases the risk two- to threefold when compared with parity. Late menopause, after 52 years old, also seems to be a risk factor. Margaret was 56 at menopause. Additional risk factors for endometrial cancer are the use of unopposed estrogen, either as replacement therapy or endogenously produced, such as PCOS or granulosa cell tumors. Pathology must be performed to determine a diagnosis of the lesion. This patient possesses many risk factors.

2. The endometrial lining thickness is measured from the reflective interface of the basalis layer of the endometrium, anterior to posterior. The hypoechoic myometrial layer should not be included. Also, any fluid present within the endometrial canal should be excluded from the measurement.

3. Intracavitary radiotherapy involves placing radioactive material into the uterus and the vaginal fornices to deliver high-intensity focal radiation. Knowledge of the distance from the radiation source to sensitive adjacent organs such as the bladder is imperative and sonography is useful in determining distances. The radiation dose is calculated on the basis of these distances.
4. Invasive mole: contains chorionic villi from a complete or partial mole that persists following uterine evacuation; elevated hCG and persistent heavy vaginal bleeding; invasion can on rare occasions penetrate through the myometrium and blood vessels, causing uterine rupture and potential death from severe intraperitoneal hemorrhage.

Choriocarcinoma: absence of chorionic villi; occurs after complete mole, partial mole, normal pregnancy, stillbirth, spontaneous abortion, or ectopic pregnancy; metastasizes early and nodules may be seen in the cervix and vagina; invades blood vessels; embolization of trophoblastic tissue to the lungs may occur, which can obstruct the pulmonary venous circulation, causing right-sided heart failure or spread of tumor into the pulmonary arterial system (cor pulmonale); systemic circulation embolization causing implants in the brain, liver, and other organs; unexplained acute cor pulmonale should raise suspicion of choriocarcinoma.

Placental-site trophoblastic tumor: arises from nonvillus, “intermediate” trophoblast that infiltrates the decidua, myometrium, and spiral arteries at the placental site; the hCG level elevates mildly, making it an unreliable marker; usually presents months or years after a term delivery; infiltration into the ovary, rectum or bladder, and distal organ metastases is possible, although this is less common than with choriocarcinoma.

Epithelioid trophoblastic tumor: rarest type of PTN and a variant of PSTT; presents much later than other persistent trophoblastic neoplasia, 6 to 7 years after the last-term pregnancy

5. Stage 0, carcinoma in situ
   Stage I, confined to the cervix
   Stage II, extends beyond cervix: upper two-thirds of vagina or parametrial tissue
   Stage III, extends to pelvic wall or lower third of vagina or causes ureteral obstruction
   Stage IV, extends to pelvic wall or lower third of vagina or causes ureteral obstruction, spreading to adjacent organs and outside the pelvic cavity

2. Thick arrow: degenerating leiomyoma; open arrow: uterine fundus; thin short arrow: urinary bladder; thin long arrow: uterine endometrium. The view, which is labeled at image bottom, is a sagittal midline.

3. Image A shows a sagittal midline uterus with homogenous myometrium and thickened, echogenic endometrium. The MI is 0.6 and TI is 0.3, as stated in the image right upper corner. Image B is a sonohysterogram in the sagittal midline uterus position. The fluid-filled endometrium clearly demonstrates two polyps at the inferior margin of the fundal endometrium.

4. The image shows a transverse uterus with a mildly heterogeneous endometrium and hyperplasia of the endometrium.

5. Image A is a sagittal uterus. Image B is transverse of the same uterus. Both images are performed transvaginally. The complex appearance of the endometrium is demonstrating blood within the endometrium, which is diagnosed as hematometra.

**CASE STUDY**

1. Image A is a sagittal image of an endometrium demonstrating cystic changes. Image B is a transverse view of the thickened, cystic endometrium. Estrogen has a proliferative effect on the endometrium. Patients with atypical endometrial hyperplasia may develop endometrial carcinoma.

2. All three images demonstrate a typical appearance of an endometrium in a patient undergoing tamoxifen therapy. Image A is a longitudinal view. Image B is a transverse image of the same endometrium. Image C demonstrates color Power angio imaging of the endometrium. It demonstrates flow in the central portion of the complex mass. Tamoxifen may have estrogenic effects in postmenopausal women. An increased risk of endometrial carcinoma, endometrial hyperplasia, and polyps has been reported in patients on tamoxifen therapy.

**IMAGE EVALUATION/PATHOLOGY**

1. The transducer type is listed on the right of the image. It was a C8-4V. The method, also listed at the image right, was EV pelvis. The structure is a hydrosalpinx, which is commonly seen as hypoechoic curves and turns of a fallopian tube in the adnexa. This may be mistaken for a complex cystic mass.