ANSWERS: CHAPTER 7

MATCHING

1. b 2. l 3. d 4. a 5. i 6. e 7. h 8. k 9. g 10. c 11. j 12. f

IMAGE LABELING


MULTIPLE CHOICE


FILL-IN-THE-BLANK

1. transperineal 2a. lollipop (or similar treat) 2b. toy 2c. sticker 3. catheterization 4a. planes 4b. protocol 5a. vaginal 5b. anus 6. 2.5 to 3 7. maternal hormones 8a. urinary tract obstruction 8b. hematuria 9a. posterior 9b. trigone 9c. dome 10a. pelvic pain 10b. swelling 10c. inflammation 11. benign cystic teratoma (BCT, dermoid cyst) 12a. ascites 12b. pleural effusion 12c. fibroma 13a. malignant 13b. ovarian 14a. thick 14b. solid

15. cysts 16a. ovaries 16b. germ 17a. hydrocolpos 17b. hematocolpos 18. hydrometrocolpos 19a. size 19b. volume 19c. ovaries 20a. low abdomen pain 20b. fever 20c. lack of appetite 20d. nausea 20e. vomiting

SHORT ANSWER

1. Vaginal bleeding, discharge, ambiguous genitalia, or abdominal mass.
2. Lower urinary tract, uterus, adnexa, prostate gland, seminal vesicles, pelvic muscles, and vasculature.
3. A rhabdomyosarcoma is the tumor found most commonly in the lower urinary tract of the pediatric population and originates from the genitourinary tract in 21% of cases at the prostate or trigone of the bladder. Less common sites include the seminal vesicles, spermatic cord, vagina, pelvic muscles, uterus, vulva, urachus, and the area surrounding the scrotum. The incidence in males is higher than females.

The sonographic appearance of rhabdomyosarcoma is a homogeneous, solid mass with similar acoustic characteristic presentation to that of muscle tissue. Necrosis and hemorrhage within the tumor can lead to anechoic foci within the rhabdomyosarcoma. Calculi are rarely seen with this tumor type. Polypoid projections caused by sarcoma botryoides infiltration into the bladder wall can be seen when the tumor originates in the submucosa of the urinary bladder. Prostate origination of the tumor can cause concentric or asymmetric enlargement of the gland, resulting in a potential for infiltration of the bladder neck, perirectal region, and posterior urethra.

4. Pregnancy is often found to be the cause of an abdominal mass in older adolescents.

5. Hydrocolpos is fluid in the vagina. Hydrometra is fluid in the uterus. Hematometra is blood in the uterus. Hematocolpos is blood in the vagina. Hydrometrocolpos is fluid in both the vagina and the uterus. Hematometrocolpos is blood in both the vagina and the uterus.

NOTE: Hydro = fluid, hemato = blood, colpos = vagina, metra = uterus.
Part 1 — Gynecologic Sonography

Image Evaluation/Pathology

1. Image A demonstrates a liver showing liver metastasis. In image B, the RUQ and liver are shown with ascites. Germ cell tumors are the most common malignant tumors involving the pediatric genital tract. Dysgerminoma is seen in the ovary and seminoma in the testicle. Other germ-cell tumors in the pediatric pelvis are endodermal sinus tumor, malignant teratoma, primary choriocarcinoma of the ovary, embryonal carcinoma, nongestational choriocarcinoma, granulose-theca, and arrhenoblastoma. These malignant processes have the potential to cause abdominal ascites and metastasis.

2. The pear-shaped, well-circumscribed, cystic mass with fluid-fluid levels is a vagina with hematocolpos.

3. Images A through D demonstrate kidney views. Hydronephrosis is seen in images B and D. Hydrocolpos or any similar process that causes distention of lower pelvic structures has the potential to lead to venous and lymphatic obstruction and hydronephrosis.

4. Image A: The long arrow points to urinary bladder. The short arrow points to posterior cul-de-sac free fluid. The open arrow depicts prepubescent uterus. Image B: The view is transverse (see label in upper right of image). The short arrow points to the right ovary. The long arrow points to the uterus.

Case Study

1. CT imaging (image A) demonstrates a complex 10 cm ovarian mass (arrows) adjacent to the uterus and displacing the uterus to the right. There is mild peripheral enhancement of the lesion. The uterus appears normal. The sagittal midline ultrasound image of the pelvis shows a normal uterus and endometrium with an oval cystic mass seen posterior to the uterus (arrows). The pelvic mass shows a large anechoic cyst surrounded by ovarian tissue measuring 10.1 cm × 5.5 cm × 9.1 cm. Note the slight difference in size reported on the CT scan compared to ultrasound.

2. The 10-month-old was diagnosed with embryonal rhabdomyosarcoma (sarcoma botryoides) of the vagina. A common appearance of this malignant lesion is described as grape-like. This tumor usually originate in the vagina and spreads to the uterus, although it may start in the uterus and develop into the vagina. It is common in the 6- to 18-month age group.