

ScOPE Session 2: Gynecologic Pathology Basics

25 September, 2025

Level of Training: Medical Student

Instructions: Review the session learning objectives below, and come to the session prepared to discuss your answers. Then go to each case, and review the history along with the case slide to generate a diagnosis. The reference slide is available to show a comparison between normal histology for that area and the pathology in the case.

Lecture Objective/Questions

Case 1: Cervix

Clinical Information: 31 year old female presented for annual Pap smear, and was found to have high grade squamous intraepithelial lesion (HSIL). She was also positive for high risk HPV other. Loop electrosurgical excision procedure (LEEP) was performed.

1. What is dysplasia? How is this different from metaplasia?
2. What are some pathology features of dysplasia?
3. What infectious agent is associated with squamous dysplasia in the cervix?
4. What are some of the high risk HPV genotypes associated with cervical cancer?

Case 2: Uterus

Clinical Information: 45 year old female with history of a fibroid uterus presented for abdominal pain. CT imaging showed a large uterus containing a mass measuring 11 cm. Hysterectomy was performed. The surgeons also found a nodule attached to the pelvic wall, which they excised and sent to pathology.

1. What types of tissue make up the uterus?
2. What is the difference between a leiomyoma versus a leiomyosarcoma?
3. What clinical features can be used to distinguish a leiomyoma versus a leiomyosarcoma?
4. What features can we use grossly and under the microscope to distinguish a leiomyoma from a leiomyosarcoma?

Case 3: Ovary

Clinical Information: 63 year old female presented with abdominal pain and ascites. CT scan showed a 31 cm ovarian mass with cystic and solid areas. CA125 was 524 U/mL, CEA was 700 U/mL. Frozen section diagnosis was at least mucinous borderline tumor, and thus a bilateral salpingo-oophorectomy was performed.

1. What are three types of tumors that can arise from the ovary?
2. What are some serum/blood tumor markers that can be elevated in ovarian tumors, and which tumors do they indicate?
3. What is a frozen section, and what is its purpose for fertility sparing surgery?
4. What is the most common mucinous tumor in the ovary?

Case 4: Placenta/Trophoblastic

Clinical Information: 25 year old female presented the ER with vaginal bleeding and a positive pregnancy test. She mentions that her last menstrual period was 6 weeks ago. Transvaginal ultrasound showed a 8 week uterus containing multiple fluid filled cysts. A fetal pole is not identified. Serum beta-hCG is 155,000 mIU/mL. Dilation and curettage is performed.

1. What hormone is measured in the blood and the urine to indicate pregnancy?
2. What cell in the placenta produces the hormone?
3. What neoplasia that occurs during pregnancy can be a risk factor choriocarcinoma?
4. What is the genetic difference between a complete mole and a partial mole?