UNIT 5: NEOPLASIA

Educational Topic 55: Ovarian Neoplasms

Rationale: Adnexal masses are a common finding in both symptomatic and asymptomatic patients. Appropriate evaluation is essential in the differentiation between benign and malignant neoplasms.

Intended Learning Outcomes:

A student should be able to:

- Describe the initial management of a patient with an adnexal mass
- Compare the characteristics of functional cysts, benign ovarian neoplasms and ovarian cancers
- List the risk factors and protective factors for ovarian cancer
- Describe the symptoms and physical findings associated with ovarian cancer
- Describe the three histological categories of ovarian neoplasms

<u>TEACHING CASE</u>

CASE: A 48 year-old G3P3 woman comes to the office for a health maintenance exam. She is in good health and has no concerns. She had three normal vaginal deliveries and underwent a tubal ligation after the birth of her third child 15 years ago. She has no history of abnormal Pap smears or sexually transmitted infections. Her cycles are regular and her last menstrual period was 18 days ago. She is not taking any medications. Her family history is significant for a maternal aunt who was diagnosed with ovarian cancer at age 60. On examination, she has normal vital signs. Her heart, lung and abdominal exams are normal. On pelvic examination, she has normal external genitalia, vagina and cervix. On bimanual exam, she has a slightly enlarged uterus and a palpable 6 cm mobile, non-tender right adnexal mass which is confirmed on the rectovaginal exam.

COMPETENCY-BASED DISCUSSION & KEY TEACHING POINTS:
Competencies addressed:
- Patient Care
- Medical Knowledge
- Systems-Based Practice

1. What is the next step in the management of this patient?

   - Pelvic transvaginal ultrasound is essential to evaluate the characteristics of the adnexal mass. Categorization as to whether this is a simple (cystic) or complex adnexal mass is crucial to the management.
   - If cystic, mobile, and less than 10 cm, observation is reasonable in the pre-menopausal patient who is asymptomatic (and with no family history of ovarian cancer). A repeat ultrasound in 8-12 weeks will assist in determining if this is persistent or increasing, at which point surgical exploration would be advisable. In this case, this is most likely a neoplasm. If the cystic ovary resolves or is smaller, then this likely represents a functional cyst.
   - If the adnexal cystic mass is solid or complex, fixed, size >10 cm, or bilateral, then surgical exploration is recommended.
   - CA125: tumor marker often elevated in women with advanced epithelial ovarian cancer. CA 125 was developed originally to follow response to chemotherapy treatment (as surrogate marker for response), but now used to assess for relapsed disease and to triage women with a pelvic mass (to gyn oncologist or gynecologist for further investigations). Non-specific elevations seen among premenopausal women with gynecologic and non-gynecologic conditions (endometriosis, fibroids, benign cystic neoplasms, infection/inflammation, cirrhosis). More likely to be discriminating among postmenopausal women with adnexal masses.
   - Other tumor markers to consider: CEA (mucinous tumors), AFP (yolk sac germ cell tumors), LDH (dysgerminoma), beta-HCG (choriocarcinoma, mixed germ cell tumors)

2. How would your approach be different if the patient was postmenopausal at 62 years of age?

   - Any postmenopausal patient with a complex cystic/solid mass requires surgical exploration and removal. If the cyst is simple in nature, then observation is reasonable provided the patient is asymptomatic, there is no significant family history of ovarian cancer, and CA125 is normal.

3. You obtain an ultrasound which shows a 6 cm right complex ovarian cyst. What is your differential diagnosis?

   - Benign:
       - Functional cyst (follicular, corpus luteum, theca lutein)
       - Endometrioma
       - Tubo-ovarian abscess
       - Serous/mucinous cystadenoma
       - Gonadal stromal tumors (fibroma/thecoma)
       - Germ cell tumors (teratomas)
   - Malignant:
       - Epithelial tumors (serous, mucinous, clear cell, endometrioid, Brenner)
       - Germ cell tumors (dysgerminoma, endodermal sinus tumor, immature teratoma)
       - Sex cord stromal tumors (Sertoli-Leydig, Granulosa)

4. What risk factors does this patient have for ovarian cancer?

   - This patient's risk factors include a family history of ovarian cancer.
   - Other risk factors include: family history breast cancer, personal history of breast cancer, BRCA 1/2 genetic mutation, increasing age, nulliparity, infertility
   - Protective factors include: oral contraceptive use, tubal ligation, increasing parity

5. List elements of the history and physical examination, which would help support the diagnosis of ovarian cancer.

- Presenting symptoms for epithelial ovarian cancer include:
  - Abdominal discomfort/bloating (50%)
  - Gastrointestinal disturbances (20%)
  - Urinary symptoms (15%)
  - Vaginal bleeding/menstrual irregularities (15%)
  - Weight loss (15%)
  - Germ cell tumors may present with acute pain. Precocious pseudopuberty and virilization may be seen with some germ cell and sex cord/stromal tumors.
- Physical exam findings typically include the presence of an adnexal/pelvic mass. In advanced stages, abdominal distension with ascites and/or an abdominal mass may be noted.

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REFERENCES

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