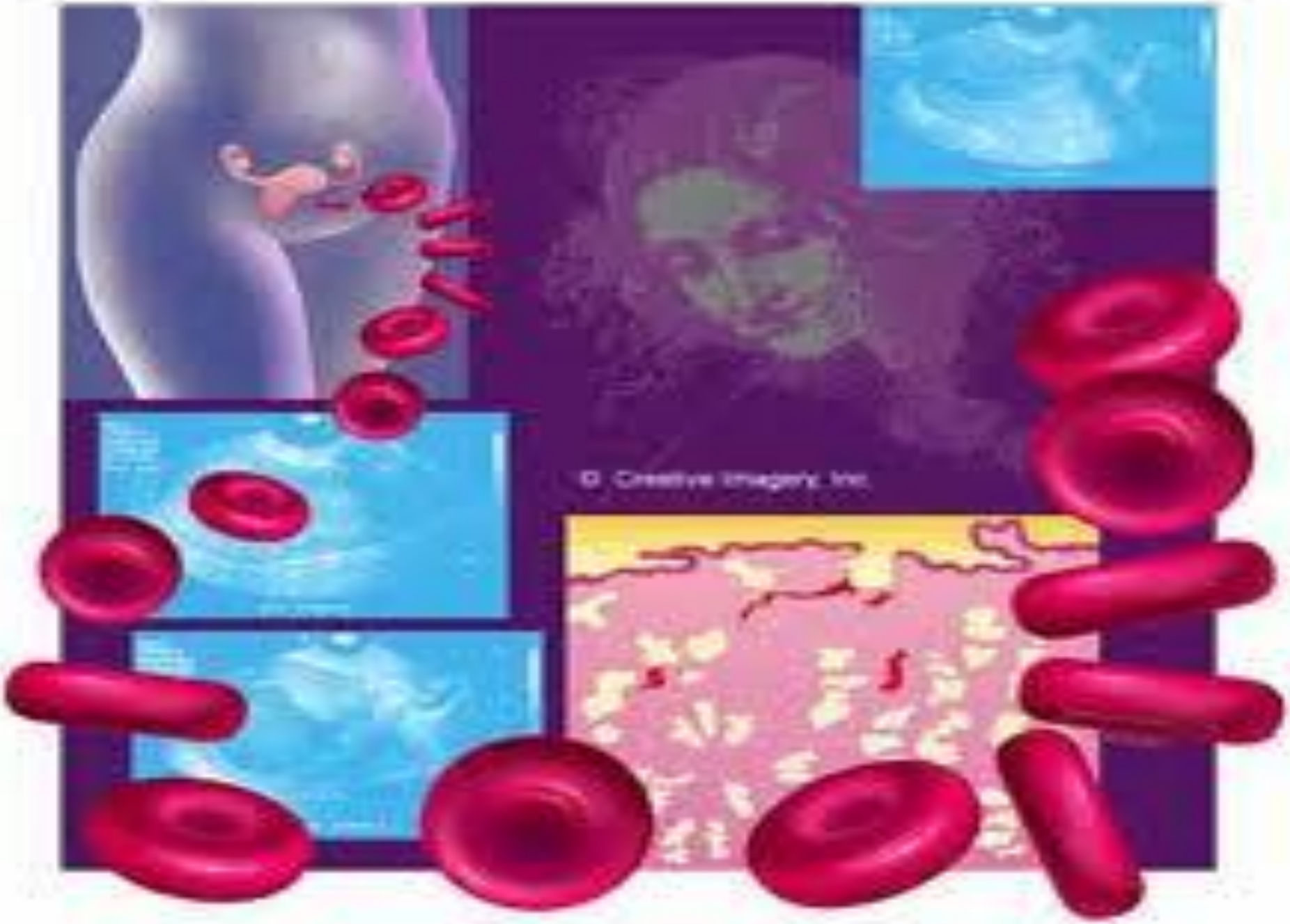
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In The Name of GOD

Abnormal Uterine Bleeding and Gynecologic mass

Dr Shahla Danaii

Causes of abnormal genital tract bleeding

- Genital tract disorders
- Pregnancy complications
- Trauma
- Drugs
- Systemic disease
- Diseases not affecting the genital tract
- Vascular tumors and anomalies in the genital tract

Genital tract disorders

Uterus

- Benign growths
  - Polyps
  - Endometrial hyperplasia
  - Adenomyosis Leiomyomas (fibroids)
- Cancer
  - Adenocarcinoma
  - Sarcoma
- Infection
  - Endometritis
- Anovulatory bleeding

Cervix

- Benign growths:
  - Polyps
  - Ectropion
- Cancer:
  - Invasive carcinoma
  - Metastatic (uterus, choriocarcinoma)
- Infection:
  - Cervicitis

Genital tract disorders

Vulva

- Benign growths

  Skin tags

  Sebaceous cysts

  Condylomata

  Angiokerataoma
- Cancer
- Infection

Sexually transmited diseases

Vagina

- Benign growths:

  Gartner's duct cysts

  Polyps

  Adenosis (aberrant glandular tissue)
- Cancer
- Vaginitis/infection: Bacterial vaginosis

  Sexually transmitted diseases

  Atrophic vaginitis

Genital tract disorders

Upper genital tract disease

- Fallopian tube cancer

  Ovarian cancer

  Pelvic inflammatory disease

Trauma

- Sexual intercourse
- Sexual abuse
- Foreign bodies (including IUD)
- Pelvic trauma (eg, motor vehicle accident)
- Straddle injuries

Drugs

- Contraception:
  - Oral contraceptives
  - Depo-Provera
- Hormone replacement therapy
- Anticoagulants
- Tamoxifen
- Corticosteroids
- Chemotherapy
- Dilantin
- Antipsychotic drugs
- Antibiotics

Systemic disease

- Diseases involving the vulva
  - Behcet's syndrome
  - Pemphigoid
- Coagulation disorders
- Thyroid disease
- Polycystic ovary syndrome
- Chronic liver disease
- Cushing's syndrome
- Hormone secreting adrenal and ovarian tumors
- Renal disease
- Emotional or physical stress
- Smoking
- Excessive exercise

Diseases not affecting the genital tract

- Urethritis
- Bladder cancer
- Urinary tract infection
- Inflammatory bowel disease
- Hemorrhoids

Causes genital bleeding by age

Premenarchal

- Foreign body
- Trauma, including sexual abuse
- Infection
- Urethral prolapse
- Sarcoma botryoides
- Ovarian tumor
- Precocious puberty

Early postmenarche

- Anovulation (hypothalamic immaturity)
- Bleeding diathesis
- Stress (psychogenic, exercise induced)
- Pregnancy
- Infection

Causes of Vaginal Bleeding in Prepubertal Girls

- *Vulvar and external*
  - Vulvitis with excoriation
  - Trauma (e.g., accidental injury [straddle injury] or sexual abuse)
  - Lichen sclerosus
  - Condylomas
  - Molluscum contagiosum
  - Urethral prolapse
- *Vaginal*
  - Vaginitis
  - Vaginal foreign body
  - Trauma (abuse, penetration)
  - Vaginal tumor
- *Uterine*
  - Precocious puberty
- *Ovarian tumor*
  - Granulosa cell tumor
  - Germ cell tumor
- *Exogenous estrogens*
  - Topical
  - Enteral
- *Other*
  - McCune-Albright syndrome

Causes of Bleeding *by Approximate Frequency and Age Group*

- *Infancy* Maternal estrogen withdrawal
- *Prepubertal* Vulvovaginitis
  Vaginal foreign body
  Precocious puberty
  Tumor
- *Adolescent* Anovulation
  Exogenous hormone use
  Pregnancy
  Coagulopathy

Reproductive years

- Anovulation
- Pregnancy
- Cancer
- Polyps, fibroids, adenomyosis
- Infection
- Endocrine dysfunction (PCOS, thyroid, pituitary adenoma)
- Bleeding diathesis
- Medication related (eg, contraceptive agents)

Conditions Associated with Anovulation and Abnormal Bleeding

- Eating disorders
  - Anorexia nervusa
  - Bulimia nervosa
- Excessive physical exercise
- Chronic illness
- Primary ovarian insufficiency-POI (previously termed premature ovarian failure [POF])
- Alcohol and other drug abuse
- Stress
- Thyroid disease
  - Hypothyroidism
  - Hyperthyroidism
- Diabetes mellitus
- Androgen excess syndromes (e.g., polycystic ovary syndrome [PCOS])

Causes genital bleeding by age

Perimenopausal

- Anovulation
- Polyps,
- fibroids,
- adenomyosis
- Cancer

Menopause

- Atrophy
- Cancer
- Estrogen replacement therapy

Causes of Bleeding in *Postmenopausal age*

- Atrophy 30%
- Endometrial polyps 10%
- Endometrial cancer 15%
- Hormonal therapy 30%
- Other tumor- vulvar, vaginal, cervical

Conditions Diagnosed as a Pelvic Mass in Women of Reproductive Age

- *Ovarian or adnexal masses*
  - Functional cysts
  - Inflammatory masses
  - Tubo-ovarian complex
  - Diverticular abscess
  - Appendiceal abscess
- Mailed bowel and omentum
  - Peritoneal cyst
  - Stool in sigmoid
- Neoplastic tumors
  - Benign
  - Malignant
- *Paraovrian or para tubal cysts*
  - *Intra ligamentous myomas*
- *Less common conditions that must be excluded:*
  - Pelvic kidney
  - Carcinoma of the colon, rectum, appendix
  - Carcinoma of the fallopian tube
  - Retroperitoneal tumors (anterior sacral meningocele)
  - Uterine sarcoma or other malignant tumors

Adnexal masses

- Adnexal masses are common in females from birth to menopause
- The most serious concern when an adnexal mass is discovered is the possibility that it is malignant
- Findings on ultrasound examination combined with age and clinical findings help to determine the etiology

Extraovarian mass

- Ectopic pregnancy
- Hydrosalpinx or tuboovarian abscess Paraovarian cyst
- Peritoneal inclusion cyst
- Pedunculated fibroid
- Diverticular abscess Appendiceal abscess or tumor
- Fallopian tube cancer
- Inflammatory or malignant bowel disease
- Pelvic kidney

Ovarian mass

- Simple or hemorrhagic physiologic cysts (eg, follicular, corpus luteum)
- Endometrioma
- Theca lutein cysts
- Benign, malignant, or borderline neoplasms (eg, epithelial, germ cell, sex-cord)
- Metastatic carcinoma (eg, breast, colon, endometrium)

Benign Ovarian Tumors

- *Functional*
  - Follicular
  - Corpus luteum
  - Theca lutein
- *Inflammatory*
  - Tubo-ovarian abscess or complex
- *Neoplastic*
  - Germ cell
  - Benign cystic teratoma
  - Other and mixed
- *Epithelial*
  - Serous cystadenoma
  - Mucinous cystadenoma
  - Fibroma
  - Cystadenofibroma
  - Brenner tumor
  - Mixed tumor
- *Other*
  - Endometrioma

RISK OF MALIGNANCY

- Prepubescent or postmenopausal female
- A complex or solid appearing mass (on imaging)
- Known genetic predisposition
- Presence in a woman known to have a nongynecological cancer (eg, breast or gastric cancer)
- Ascites

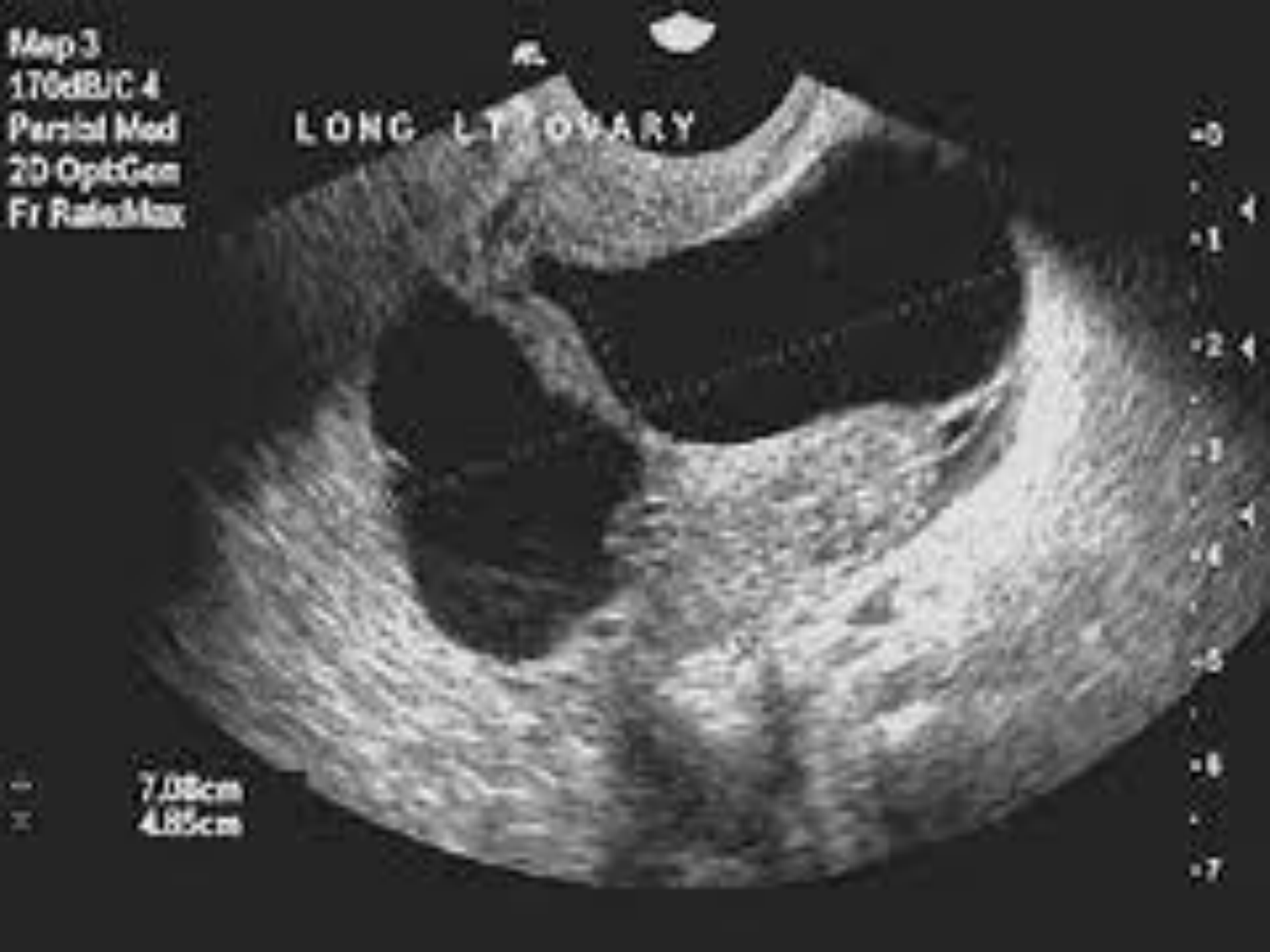
- In girls younger than 15 years of age, a high percent of ovarian tumors are malignant
- The incidence of ovarian cancer increases with advancing age; at least 30 percent of ovarian masses in women over age 50 are malignant
- an ovarian mass in a postmenopausal woman should be considered malignant until proven otherwise

OVARIAN CYSTS IN ADOLESCENTS

- Young women between menarche and 18 years of age constitute an age group in which the development of both simple and complex cysts is quite common
- Most simple cysts result from failure of the maturing follicle to ovulate and involute.
- Cysts in the postmenarcheal adolescent may be asymptomatic
- menstrual irregularities, pelvic pain
- urinary frequency, pelvic heaviness
- Rupture leads to intraabdominal pain and bleeding, which can be minor or severe

Ultrasonographic Characteristics of Adnexal Masses That May Be Useful in Predicting Malignancy

- Unilocular cyst vs. multilocular vs. solid components
- Regular contour vs. irregular border
- Smooth walls vs. nodular vs. irregular
- Presence or absence of ascites
- Unilateral vs. bilateral
- Wall thickness
- Internal echogenicity and septations (including thickness)
- Presence of other intra-abdominal pathology (liver, etc.)
- Vascular characteristics and color flow Doppler pattern

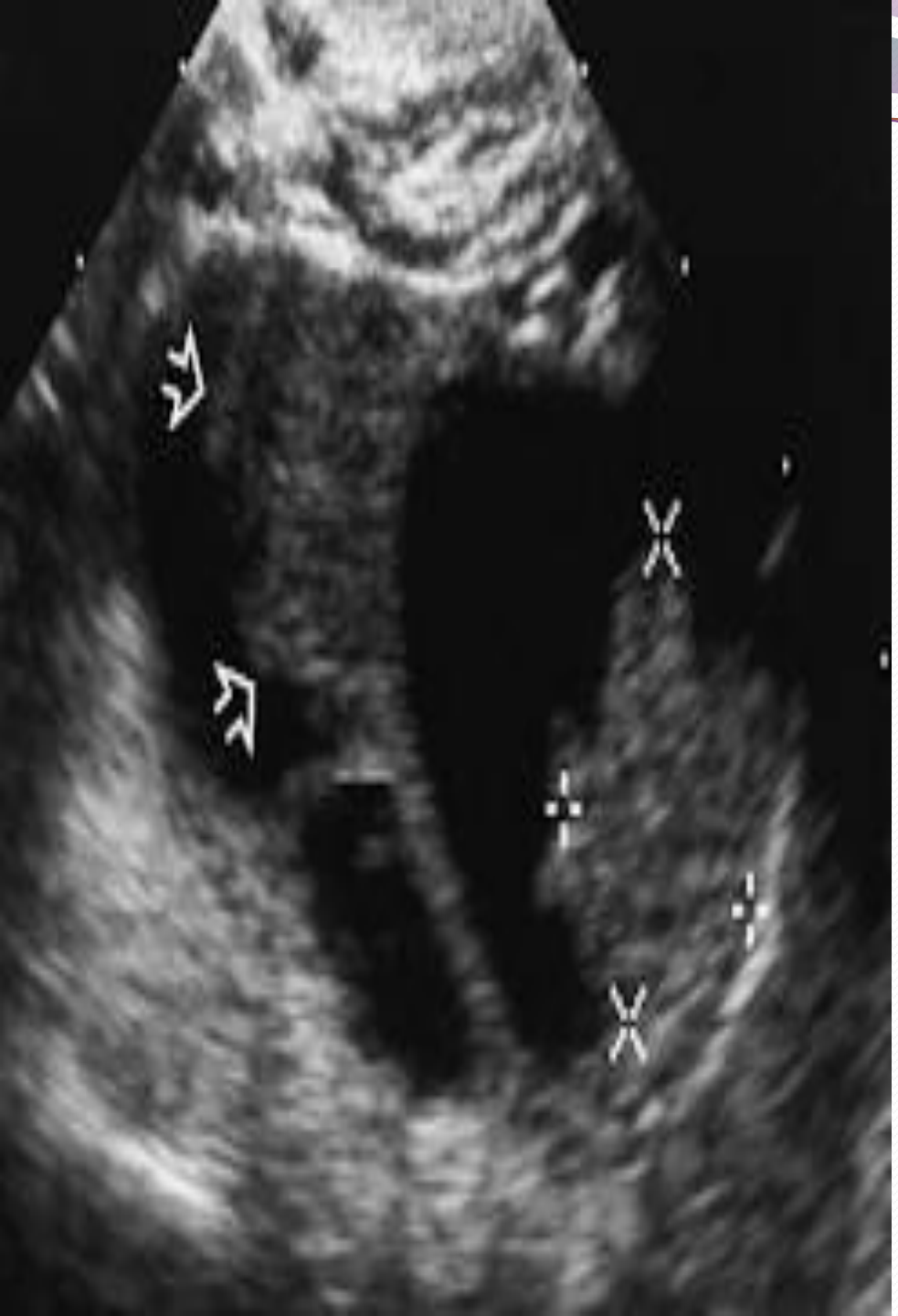

LONG LT OVARY

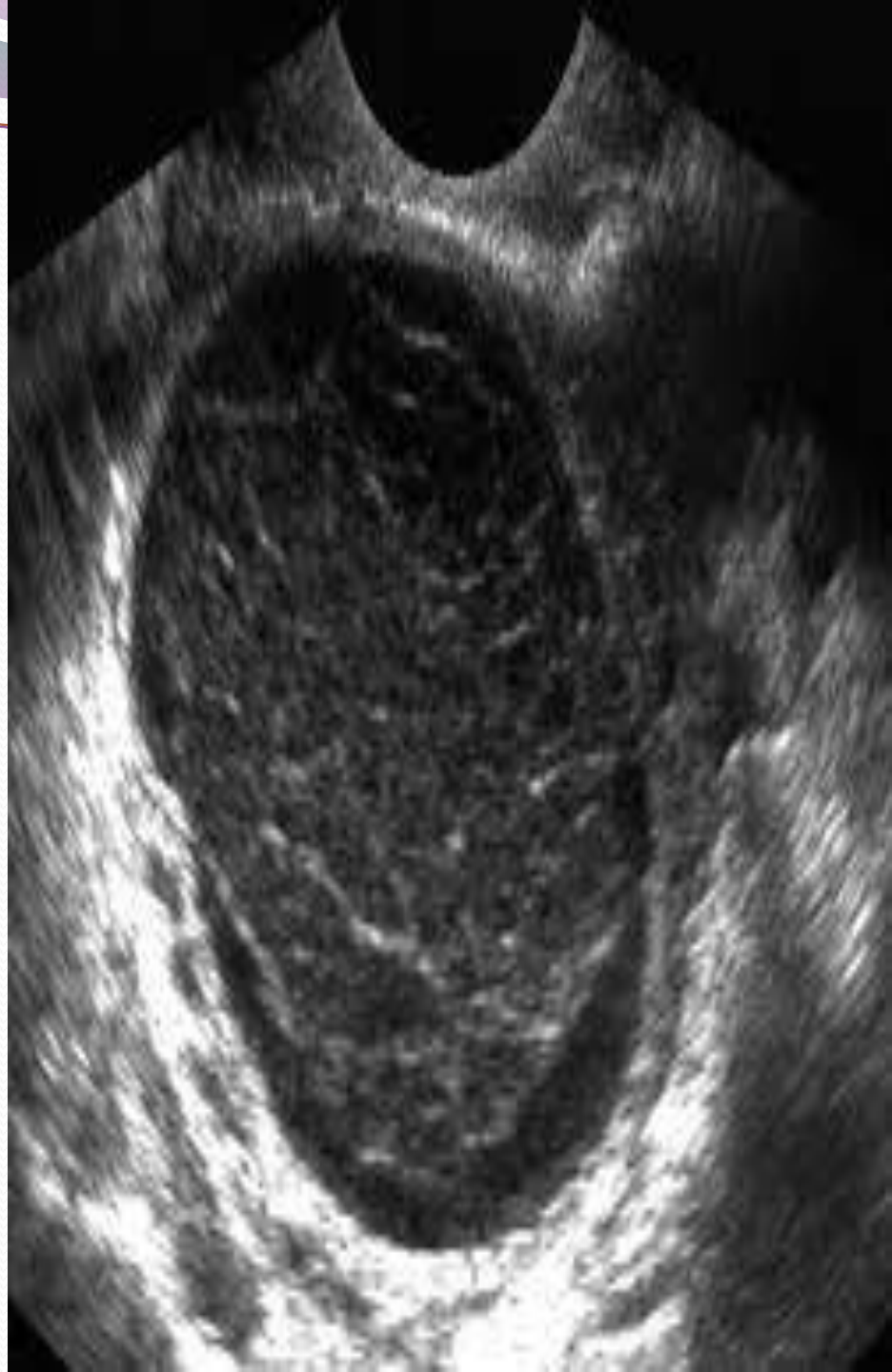
Management of Follicular cysts

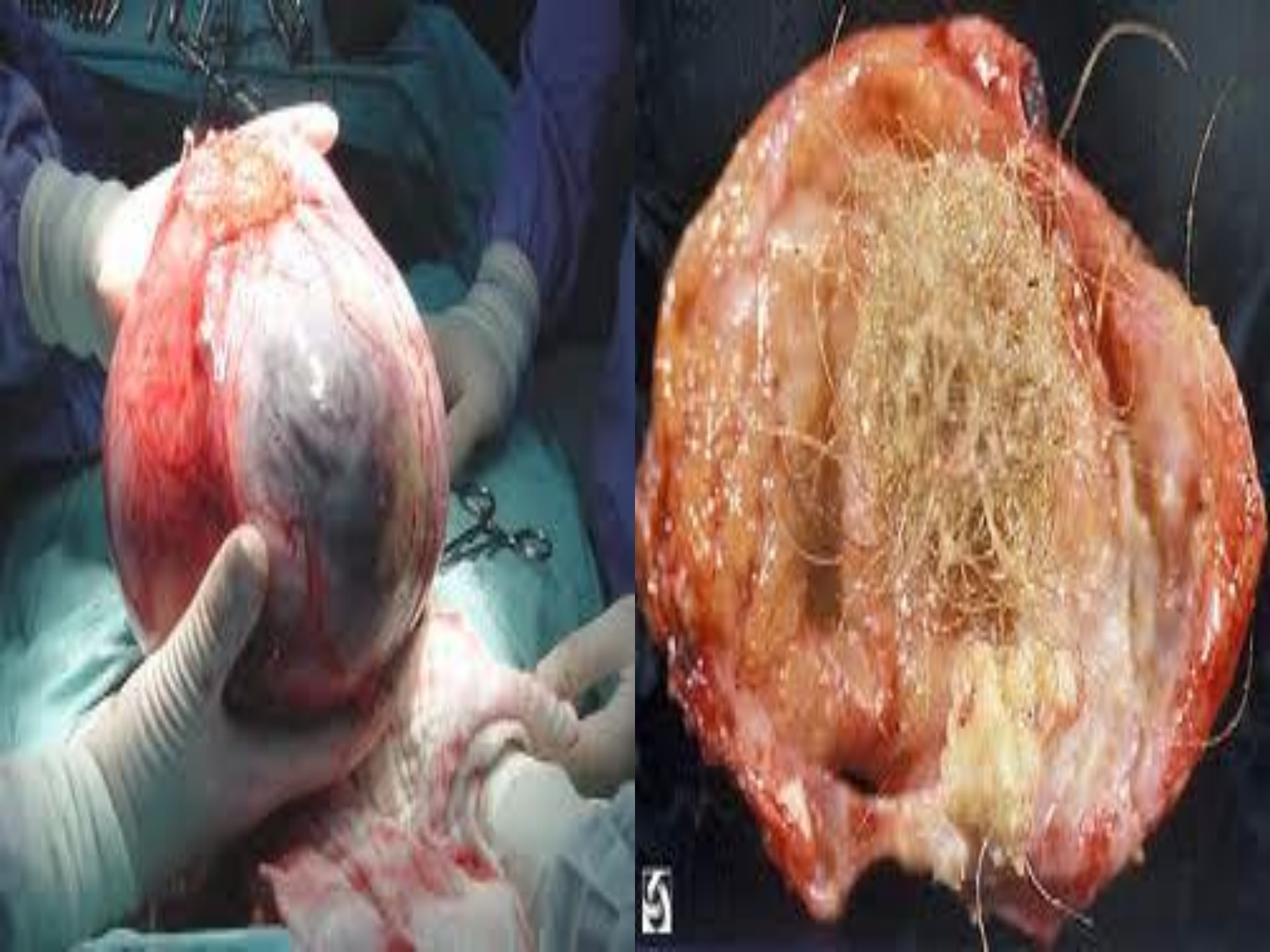
- Most follicular cysts found on routine examination in adolescents resolve spontaneously in one to two months
- Asymptomatic simple cysts <6 cm on ultrasound examination can be observed with or without administration of oral contraceptive pills
- modern low-dose oral contraceptive pills appear to have minimal efficacy in preventing development of functional cysts
- The patient should be evaluated monthly by bimanual or ultrasound examination.
- If a fluid-filled cyst increases in size, is greater than 6 cm, or causes symptoms, then a laparoscopic cystectomy may be warranted
- Asymptomatic simple cysts of 6 to 10 cm may also spontaneously resolve and can be safely observed

Management of Corpus luteum cysts

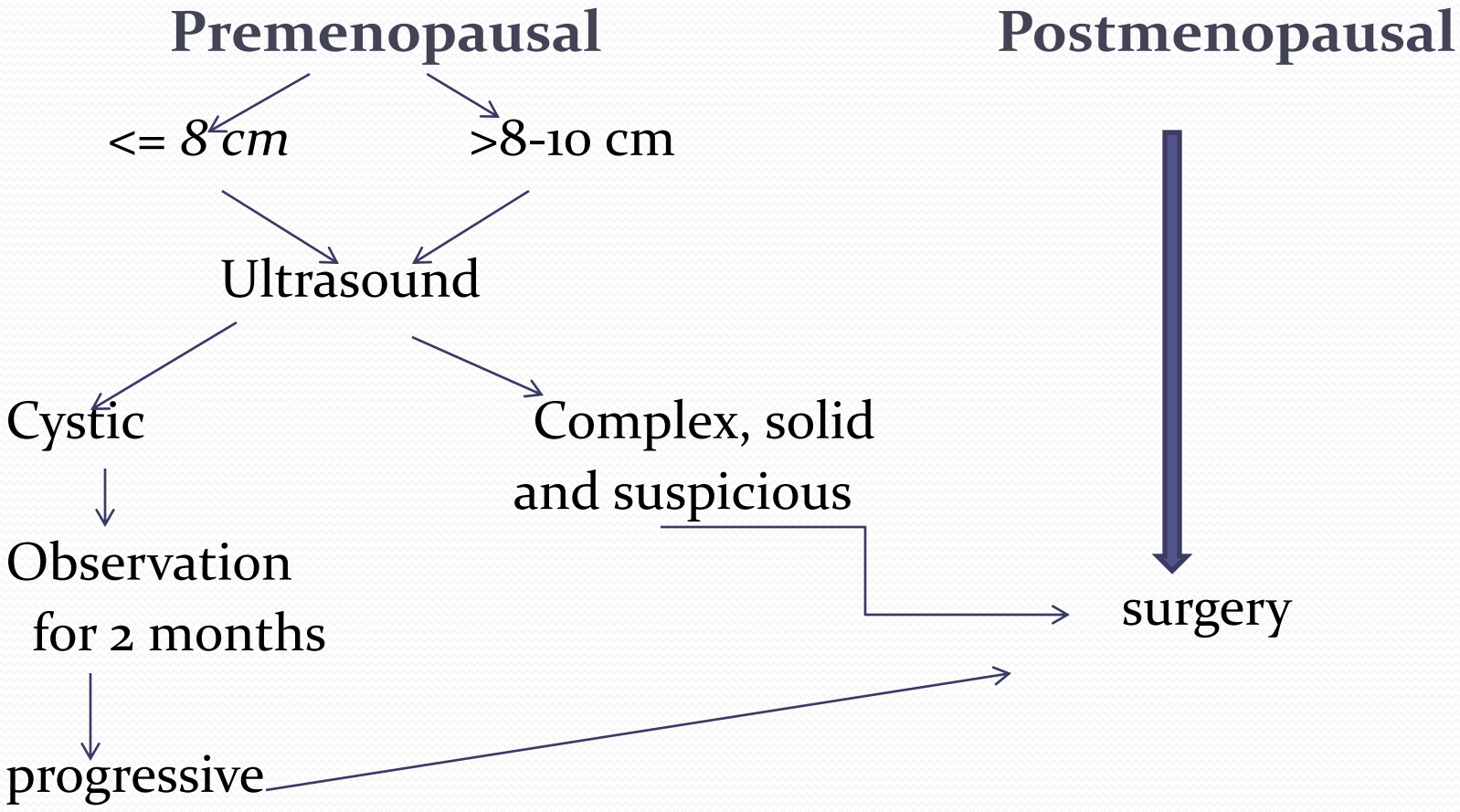
- They result from the normal formation of a corpus luteum after ovulation and can reach 5 to 12 cm in diameter
- The ultrasound appearance of these cysts is characterized by increased internal echoes
- Bleeding into the cyst or rupture with intraperitoneal hemorrhage may occur
- In the absence of pain or intraperitoneal bleeding, observation for a time period between two weeks and three months and possibly therapy with oral contraceptive pills is appropriate
- The oral contraceptive pills will keep a new cyst from forming so as to decrease confusion at the follow-up ultrasound, but do not help the current cyst regress
- Persistent/noninvoluting ovarian cysts should be managed surgically





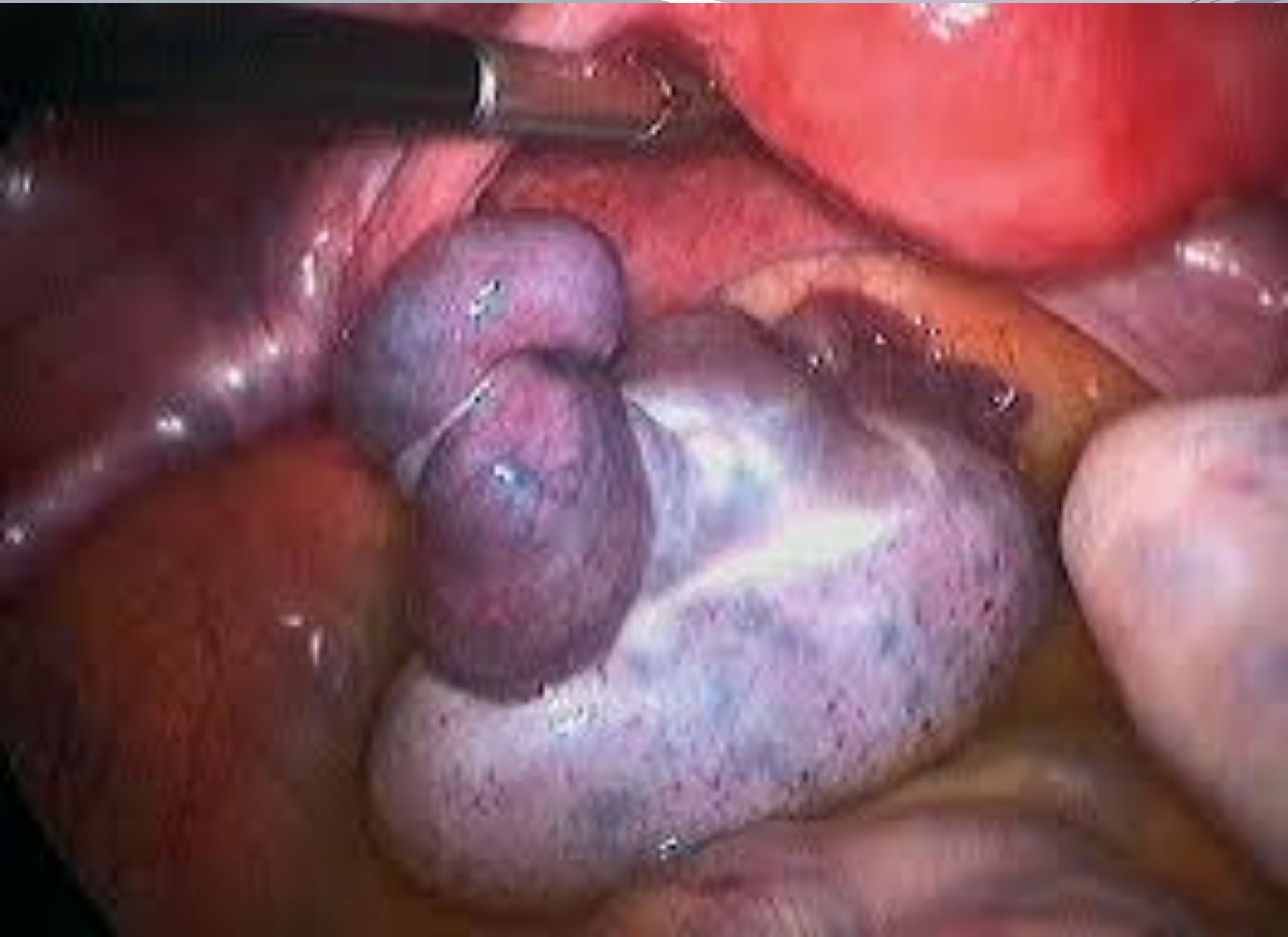


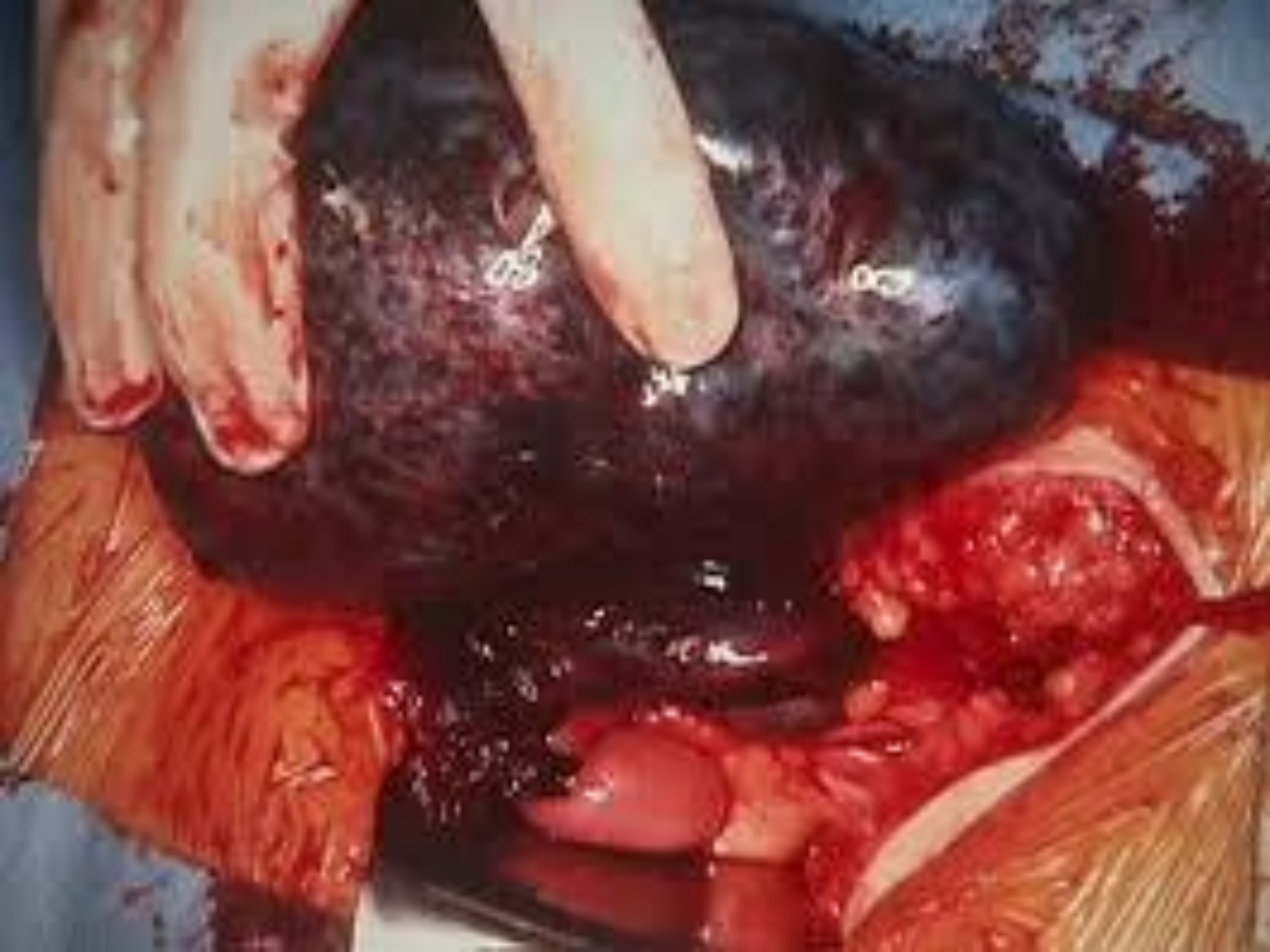
"Adnexal" mass



Ovarian torsion

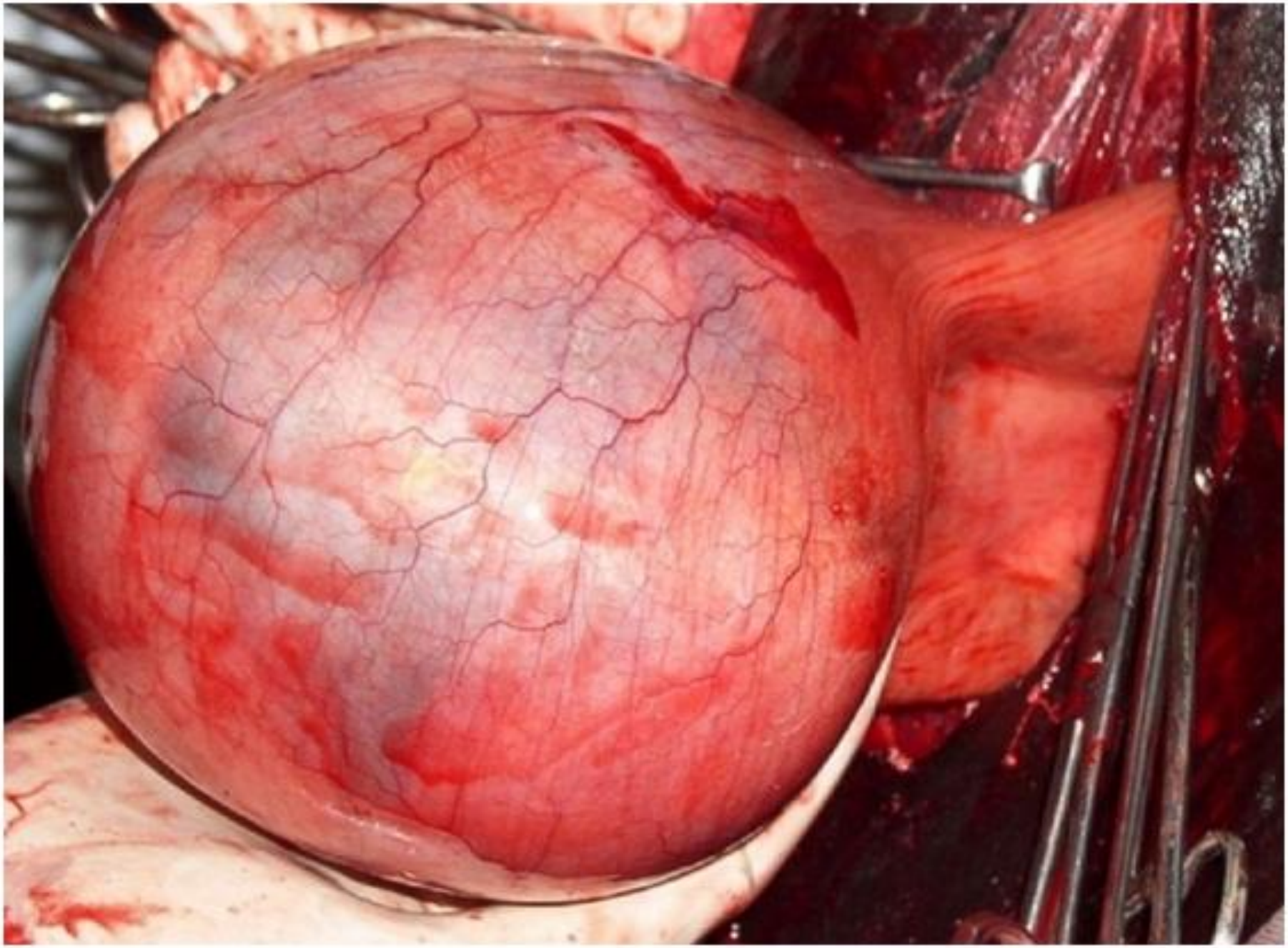
- Torsion can occur with a cyst of any size, particularly when long pedicles are present
- lower abdominal pain of sudden onset
- nausea, vomiting
- low-grade fever, leukocytosis
- they can seek emergent care without delay
- An ultrasound evaluation showing a size discrepancy in the ovarian volumes
- An attempt should always be made to salvage the torsed ovary by untwisting the vascular pedicle





Clinical manifestations of ovarian tumor

- Patients with an ovarian tumor may present with abdominal pain or complaints of increasing abdominal girth, nausea, and vomiting; or they may be asymptomatic
- abdominal palpation and rectal examination are important in any girl with nonspecific abdominal or pelvic complaints
- Sonography is used routinely to determine the overall size of the mass and identify whether it is simple, complex, solid, bilateral, or associated with free fluid.
- A solid ovarian mass in childhood is always considered malignant until proven otherwise by histological examination
- Additional information can be obtained through use of CT scan or MRI



Ovarian Cancers

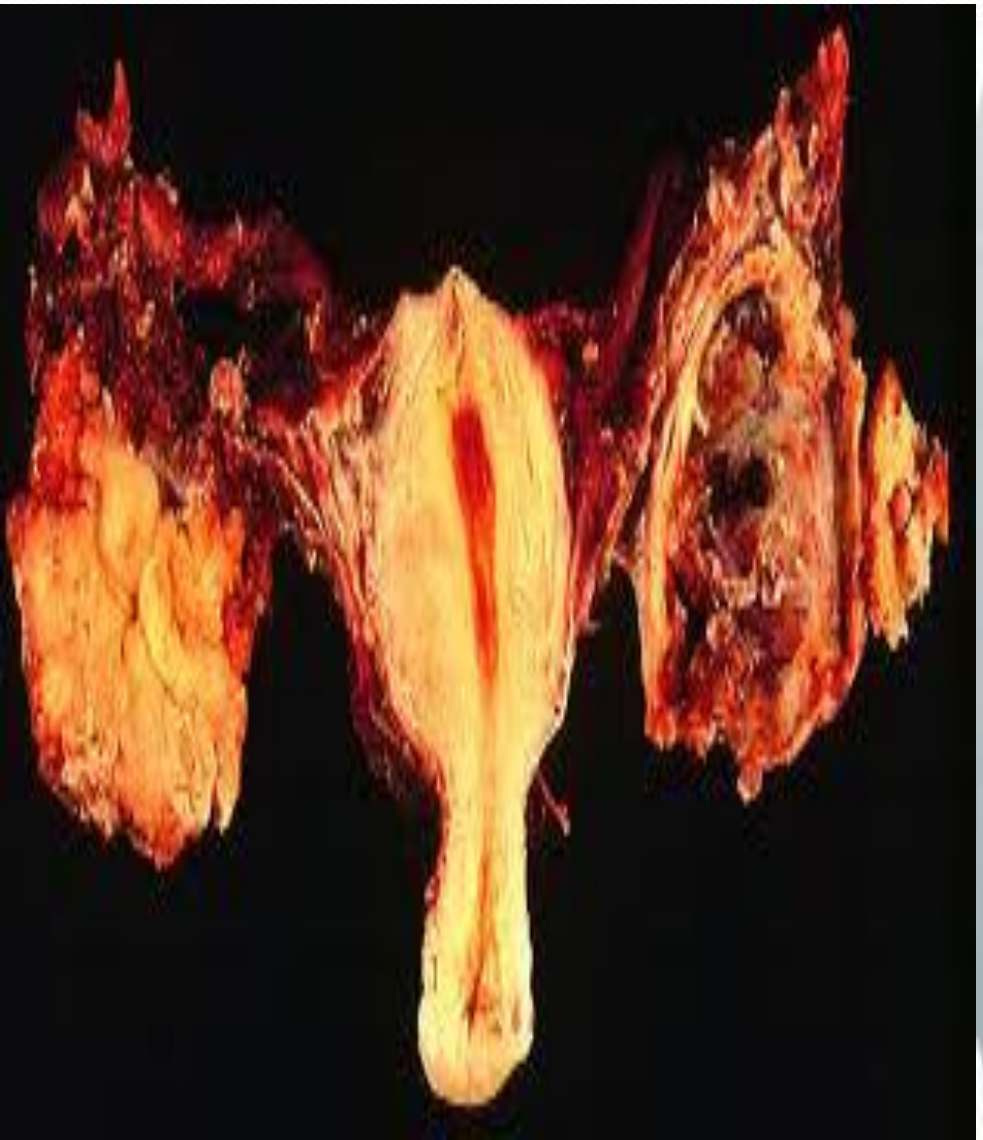
epithelial Ovarian Cancers

- *Serous*
- *Mucinous*
- *Endometrioid*
- *Clear-cell*
- *Brenner*
- *Mixed epithelial*
- *Undifferentiated*

Nonepithelial Ovarian Cancers

- Germ Cell Malignancies
  Dysgerminoma
  Immature teratoma
  Endododermal Sinus Thmors
  Mixed Germ Cell Tumors
- Sex Cord-Stromal Tumor
- Sarcomas
- Small Cell Carcinoma
- **Metastatic Tumors**

Ovarian cancer

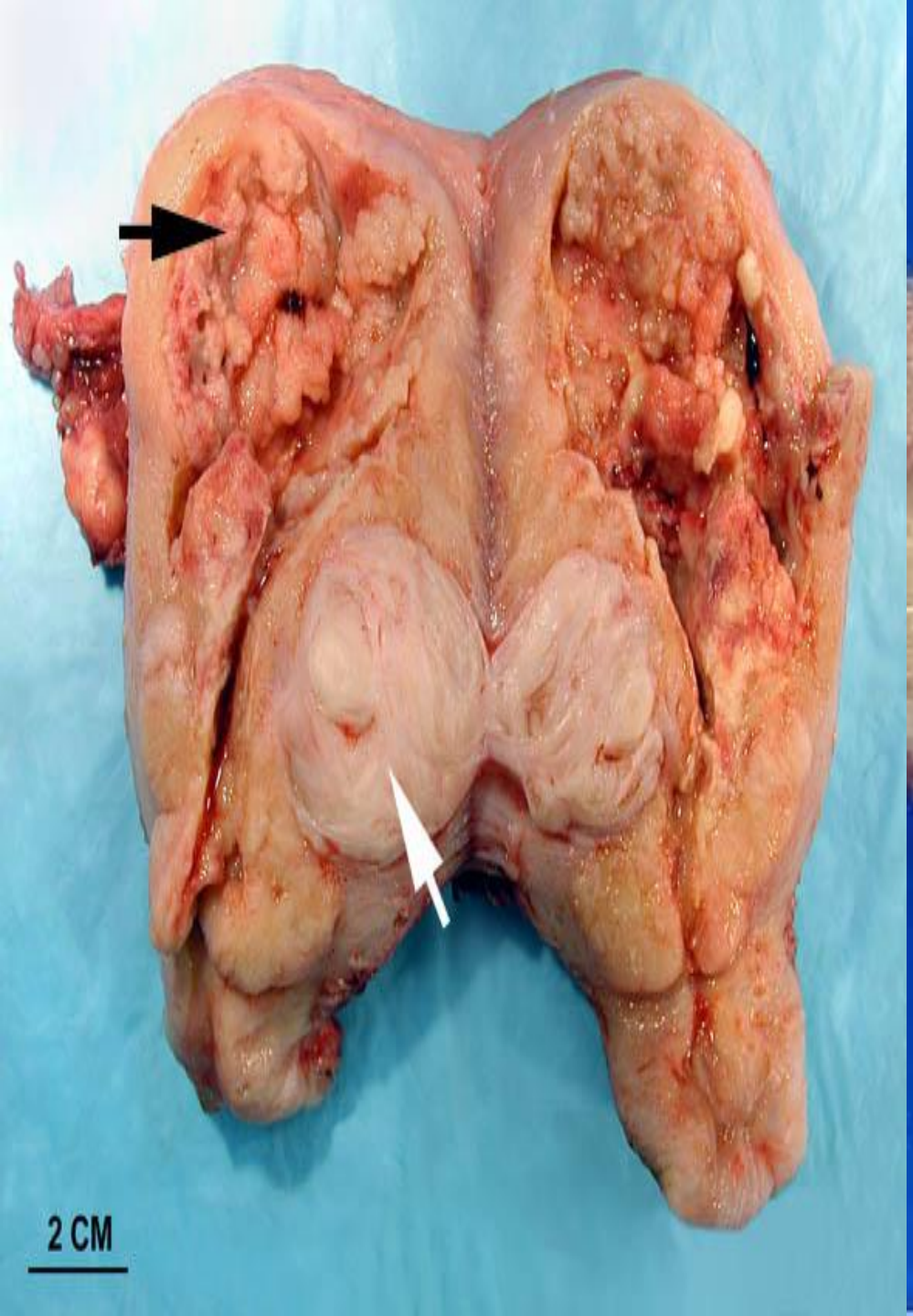


Endometrial cancer risk factors

- Long-term estrogen exposure
  - Exogenous estrogen
  - Endogenous estrogen
  - Chronic anovulation
- Tamoxifen use
- Obesity
- Diabetes and hypertension
- Age
- Familial predisposition and genetics
- Breast cancer
- Nulliparity
- Diet Alcohol intake Coffee Tea
- Early menarche and late menopause

DIAGNOSIS of Endometrial cancer

- Endometrial sampling : Endometrial cancer is a histological diagnosis
- Transvaginal ultrasonography
- Sonohysterography
- The cardinal symptom of endometrial carcinoma is abnormal uterine bleeding, which occurs in 90 percent of cases
- Any amount of bleeding in a postmenopausal woman not on hormone replacement is an indication for diagnostic testing to exclude endometrial cancer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Invasive cervical cancer risk factors

- Early onset of sexual activity
- Multiple sexual partners
- A high-risk sexual partner
- History of sexually transmitted infections (eg, Chlamydia trachomatis, genital herpes)
- History of vulvar or vaginal squamous intraepithelial neoplasia or cancer(CIN)
- Immunosuppression (eg, human immunodeficiency virus infection)
- Human papillomavirus (HPV)
- Cigarette smoking

CLINICAL MANIFESTATIONS

- Irregular or heavy vaginal bleeding
- Postcoital bleeding
- Early cervical cancer is frequently asymptomatic
- The diagnosis of cervical cancer is made based upon histologic evaluation of a cervical biopsy
- Cervical cytology is the principal method for cervical cancer screening

ای دوست بیا تا غم فردا نخوریم

وین یک دم عمر را غنیمت شمریم

فردا که از این دیر فنا در گذریم

با هفت هزار سالگان سر بسریم

Thank you for your attention