良性附屬器腫瘤簡介

Benign adnexal mass

- Prepubertal Age Group
- Adolescent Age Group
- Reproductive Age Group
- Postmenopausal Age Group

Prepubertal Age Group

- **Differential Diagnosis**
- **Diagnosis and Management**

Differential Diagnosis

- **Malignancy (< 9 years of age) : 80% of the ovarian neoplasm**
- **Ovarian tumor : 1% of all tumors in these age groups**
  - **Germ cell tumors**
  - **Epithelial neoplasm : rare**
- **Symptoms : abdominal or pelvic pain (initial symptoms)**
  pelvic mass very quickly enlarge
  ☞ D/Dx : Appendicitis, Wilms' tumor or Neuroblastoma
- **Acute pain : associated with torsion**

Diagnosis

- **Imaging studies :**
  - **Ultrasonography**
  - **CT scanning**
  - **MRI**
  - **Doppler flow studies**

Management

- **Unilocular cysts : always benign and will regress in 3~6months**
  ☞ **not require surgical management with oophorectomy or oophorocystectomy**

- **Recurrence rate after cyst aspiration : 50%**

- **Premature surgical therapy for a functional ovarian mass can result in ovarian and tubal adhesions that can affect future fertility**

Management

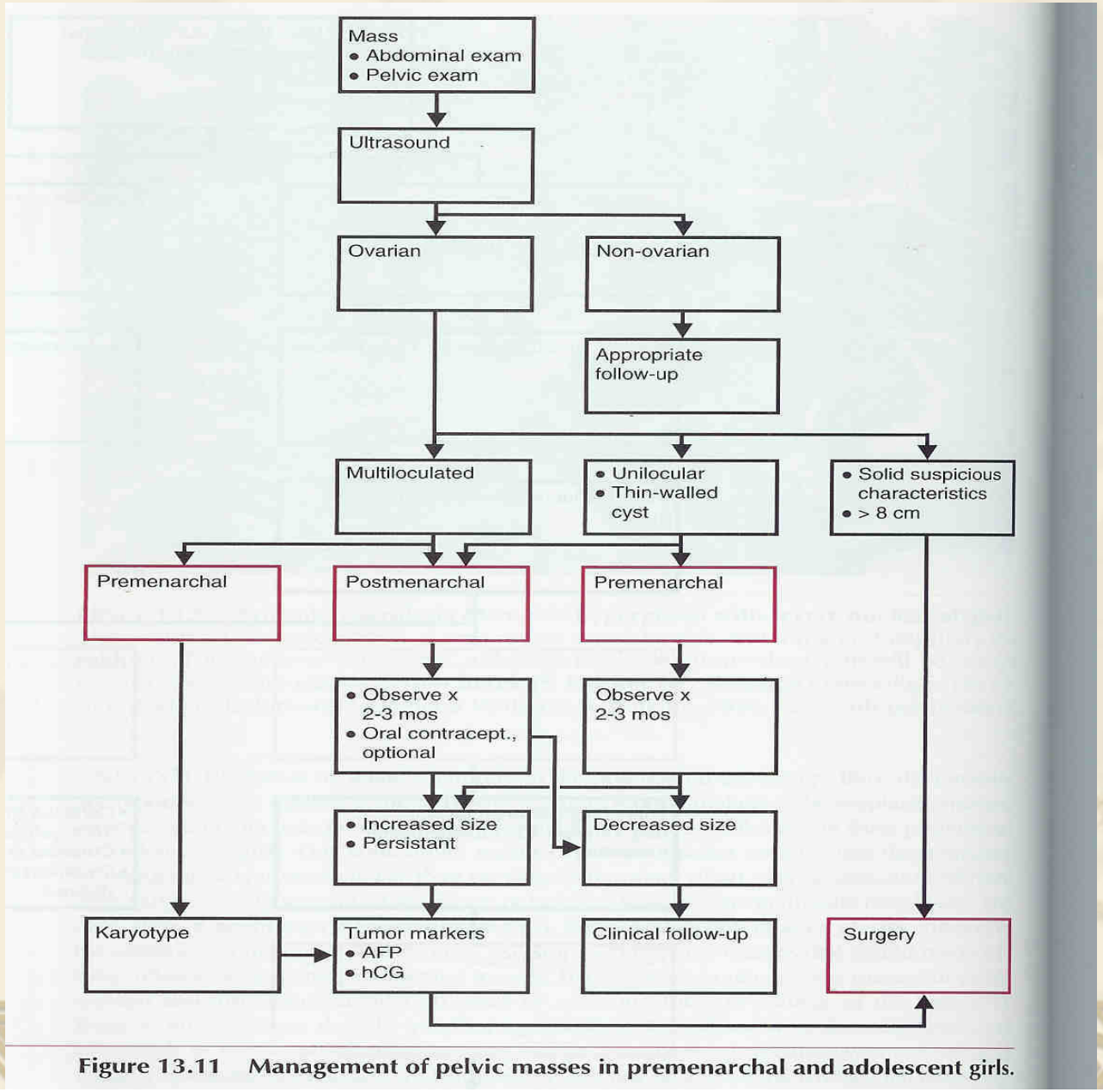


Figure 13.11 Management of pelvic masses in premenarchal and adolescent girls.

Adolescent Age Group

- **Differential Diagnosis**
- **Diagnosis and Management**

Differential Diagnosis

- Ovarian masses
- Inflammatory Masses
- Pregnancy

Differential Diagnosis

(1) Ovarian masses

- **Malignant neoplasm is lower among adolescents than among younger children**
- **Epithelial neoplasms : ↑**
- **Mature cystic teratoma : most common type**
- **Dysgenetic gonads : malignant tumor in 25%**

  ☞ gonadectomy is recommended for patients with XY gonadal dysgenesis or its mosaic variations

Differential Diagnosis

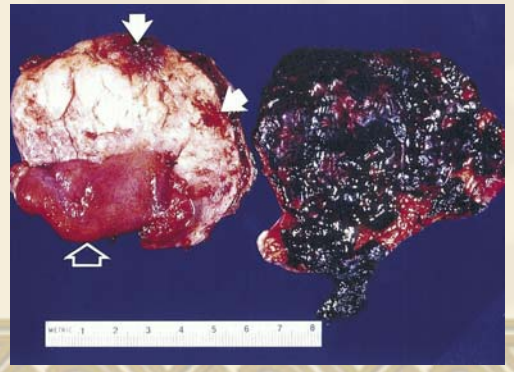
(1) Ovarian masses

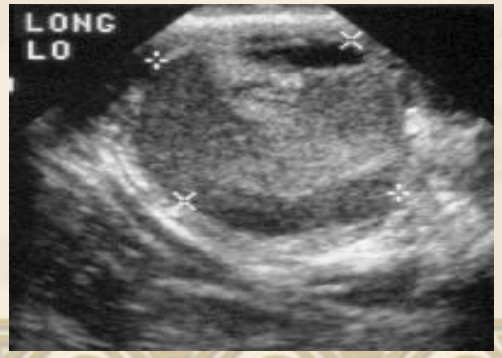
- **Functional ovarian cyst : ↑**

  - incidental finding on examination or associated with pain caused by torsion , leakage or rupture

- **Endometriosis: less common during adolescence than in adulthood**

  chronic pain (+) : 50~60% endometriosis





Transverse view of Lt ovarian endometrioma shows a heterogenous appeareance with diffuse low level echoes interspersed with echogenic and anechoic areas

Differential Diagnosis

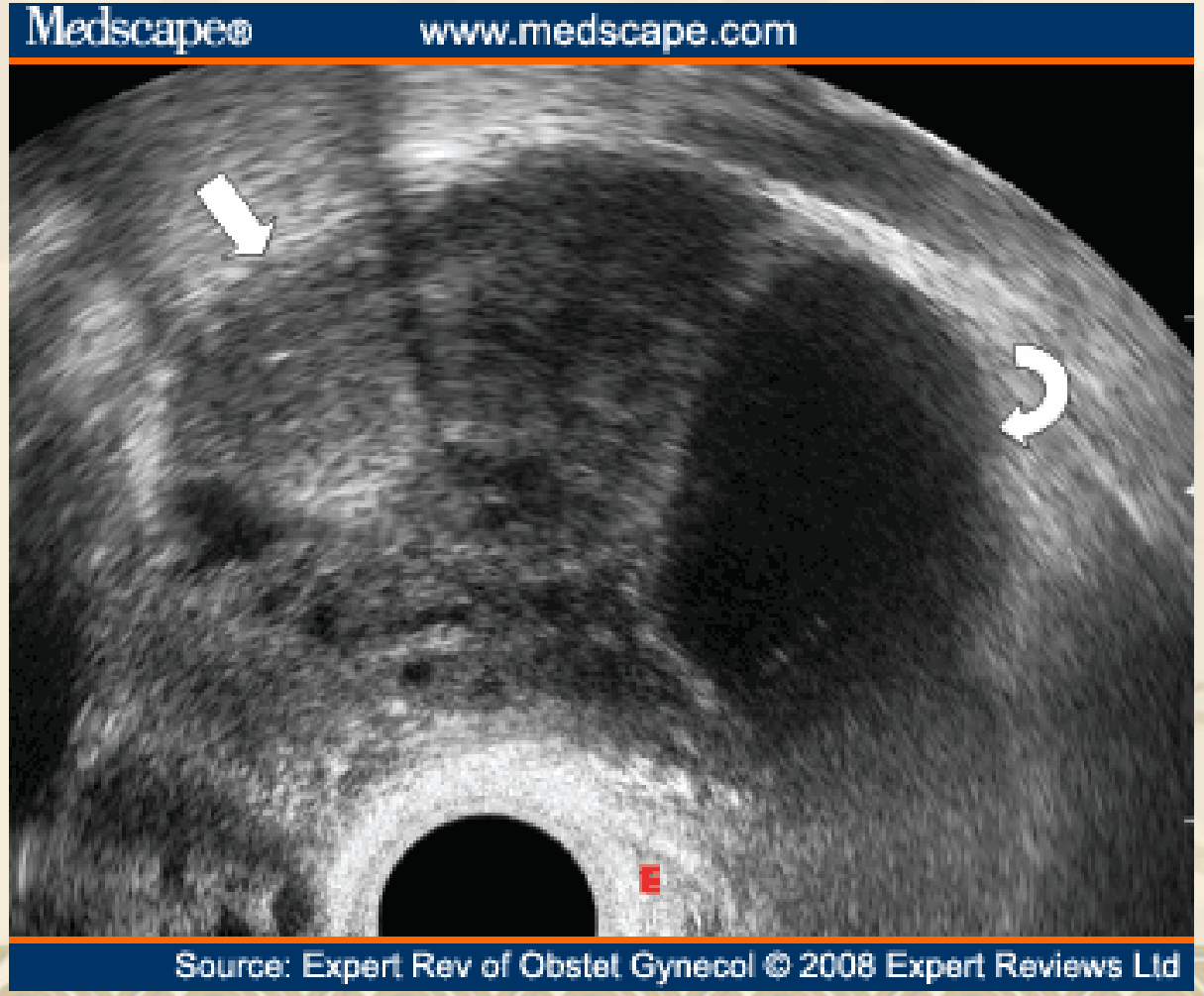
(2) Inflammatory Masses

- **Consist of tuboovarian complex, tuboovarian abscess, pyosalpinx or chronically hydrosalpinx**

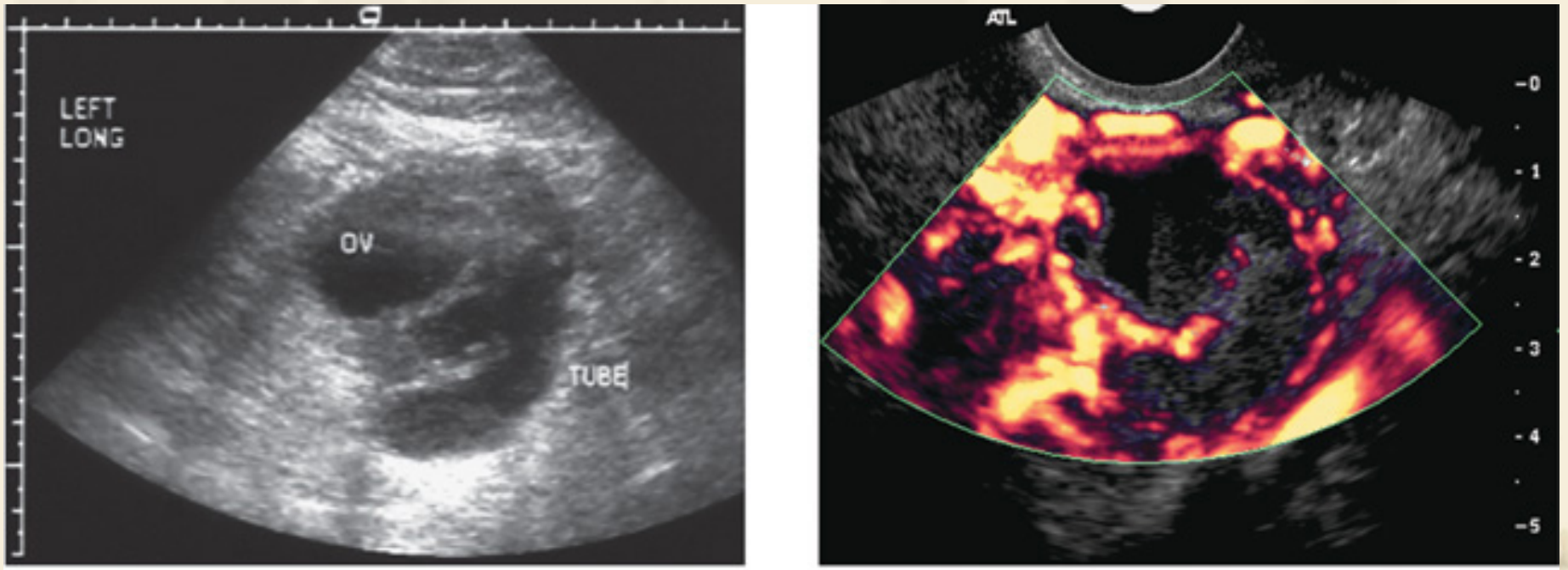
- **Pelvic inflammatory disease (PID) is a frequent infection of the female upper genital tract：**
  - **commonly associated with infertility, chronic pelvic pain, ectopic pregnancy and recurrent infection.**
  - **confused with other pelvic conditions that exhibit similar symptoms, such as endometriosis, appendicitis or ectopic pregnancy.**

- **A low threshold including the following criteria should be used for the diagnosis of PID: uterine/adnexal tenderness or cervical motion tenderness.**

This tubo-ovarian abscess is characterized by a cystic component (curved arrow) with an apparently solid area (straight arrow).



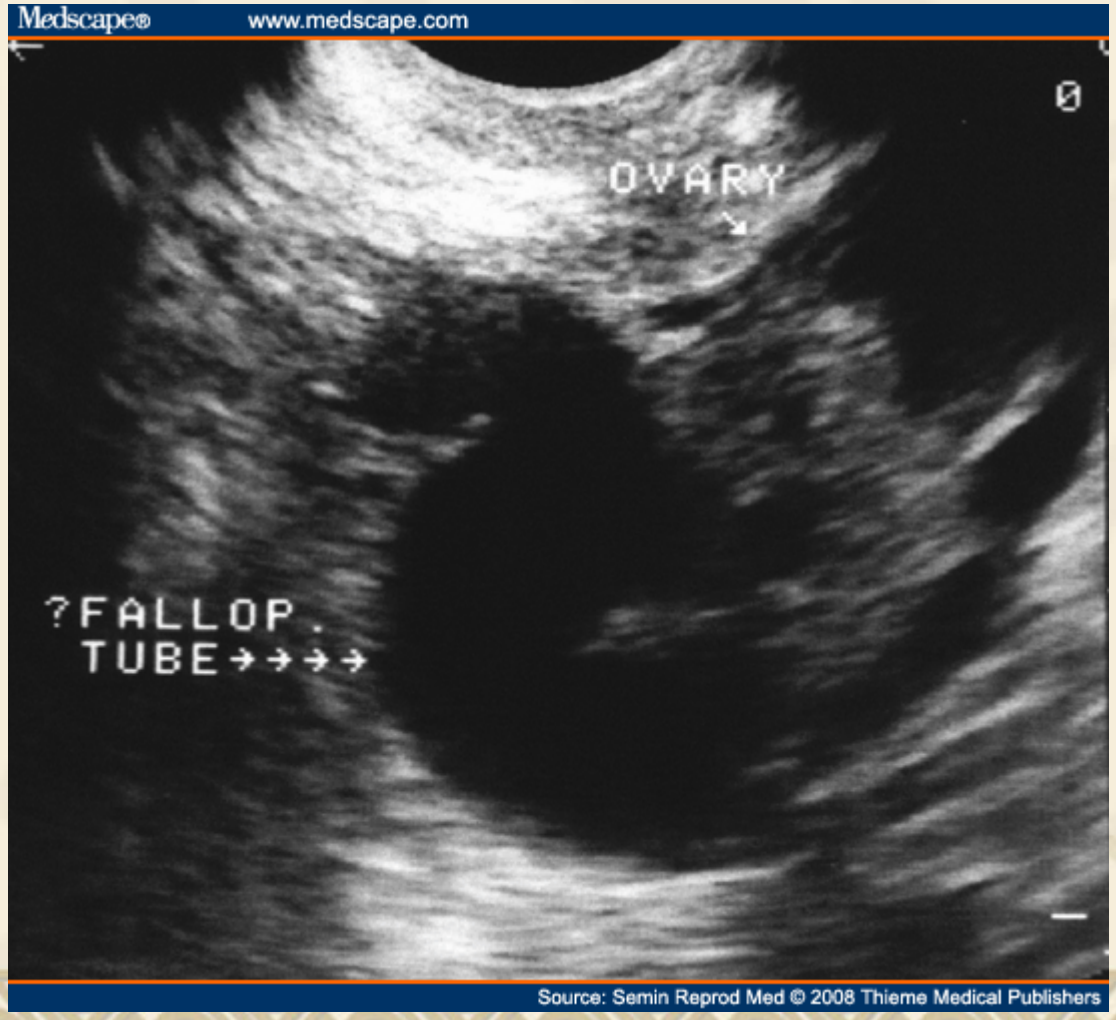
Tubo-ovarian complex. Endovaginal image of the left adnexa (A) shows a distorted ovary (OV) partially encircled by a fluid-filled hydrosalpinx (TUBE). Power Doppler (B) shows marked hyperemia throughout this similar complex structure.



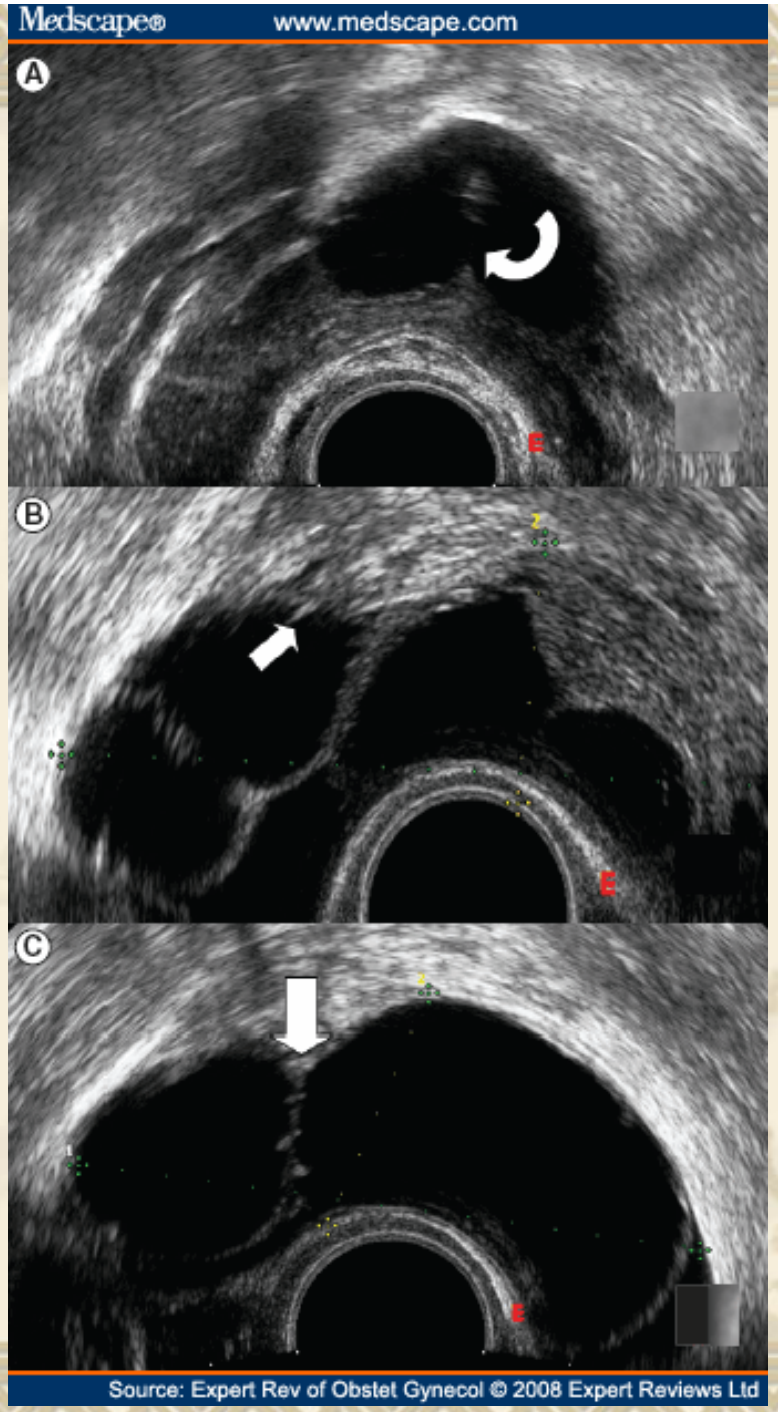
A B

Source: Ma OJ, Mateer JR, Blaivas M: *Emergency Ultrasound*, 2nd Edition: http://www.accessemergencymedicine.com

Ultrasound Image of Hydrosalpinx.



B-mode ultrasonography of hydrosalphinges. **(A)** An elongated shaped mass with incomplete septa (curved arrow) is related to the presence of a hydrosalpinx. **(B)** Another elongated shaped mass presenting hyperechoic mural nodules measuring approximately 2-3 mm, called 'beads-on-a-string' (straight arrow). **(C)** The 'waist sign', defined as indentations along opposite sides of the cystic mass (straight arrow) is another feature related to hydrosalpinx.



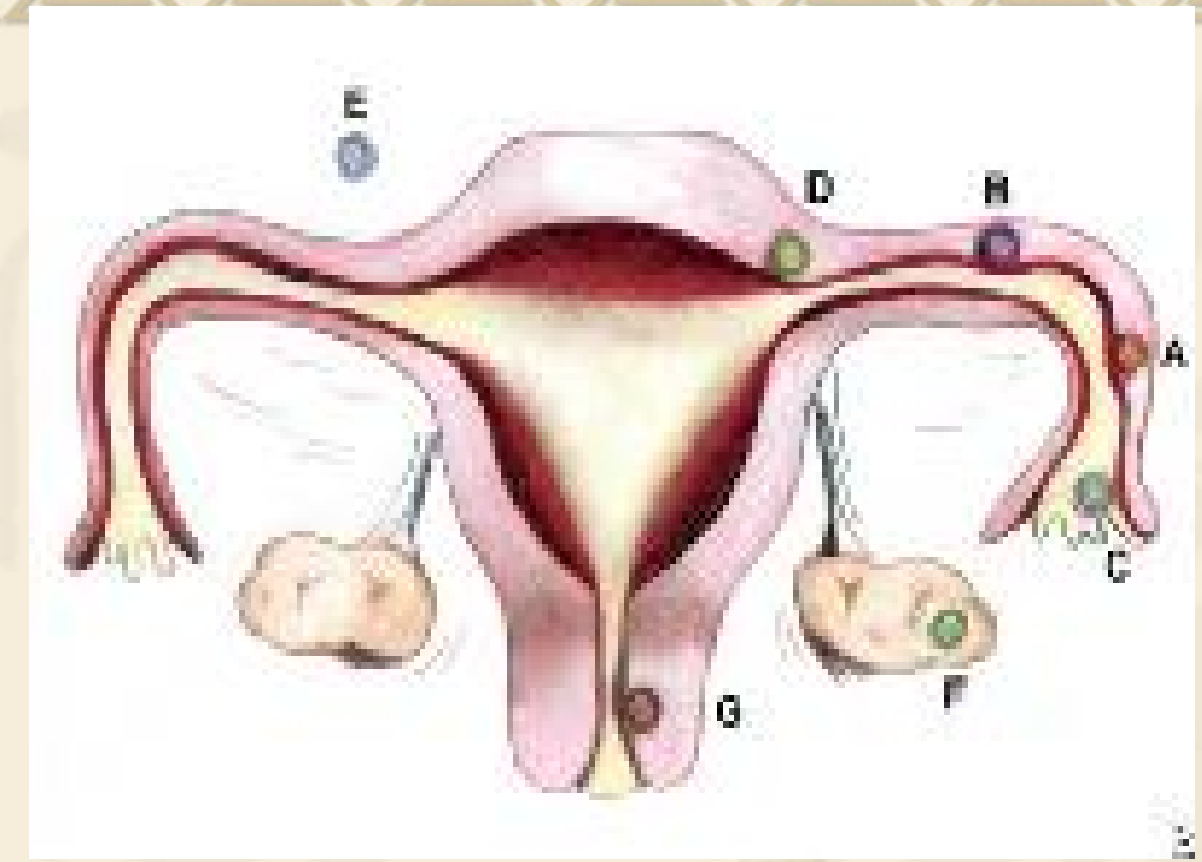
Differential Diagnosis

(3) Pregnancy

- **Ectopic pregnancy (EP) is currently the leading cause of maternal death in the first trimester.**

- **The most common gestational age at time of diagnosis is 6-10 weeks.**

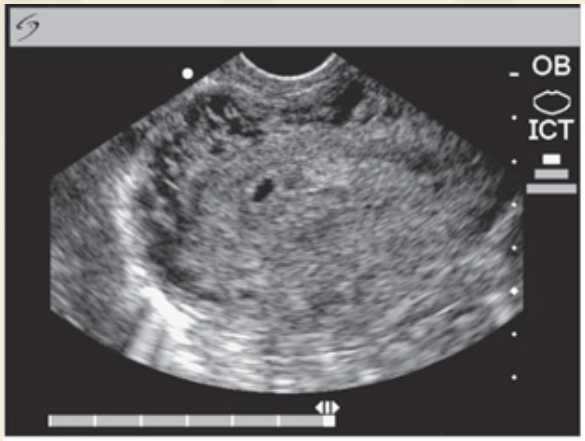
- **The classic triad of symptoms for EP includes abdominal pain and vaginal bleeding after a period of amenorrhea.**
  - **these nonspecific findings may also be seen in other clinical situations.**
- **In a normal pregnancy, the serum hCG level doubles or increases by at least 66% in 48 hours.**



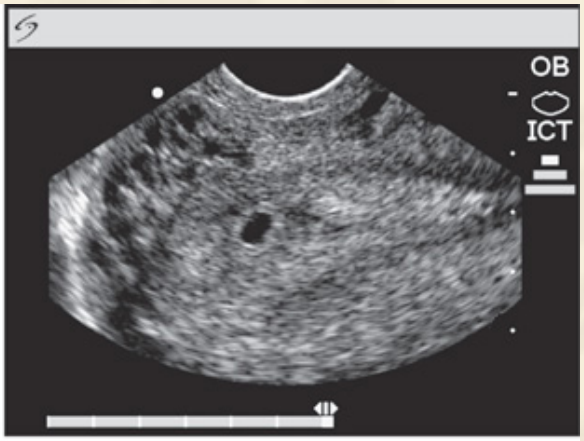
(A) Ampullary, 80%; (B) Isthmic, 12%; (C) Fimbrial, 5%; (D) Cornual/Interstitial, 2%; (E) Abdominal, 1.4%; (F) Ovarian, 0.2%; (G) Cervical, 0.2%.

- Pregnancy can even occur in both the womb and the tube at the same time (heterotopic pregnancy), but this is rare, occuring in only about 1/10,000 pregnancies.

- This sac should be visualized when the hCG level reaches 1000-2000 mIU/mL, and when it is 2400-3600 mlU/mL, the intrauterine gestational sac should be visualized by transabdominal ultrasound.



A



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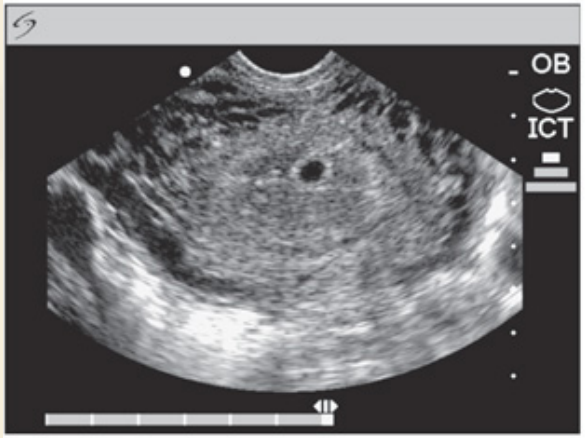

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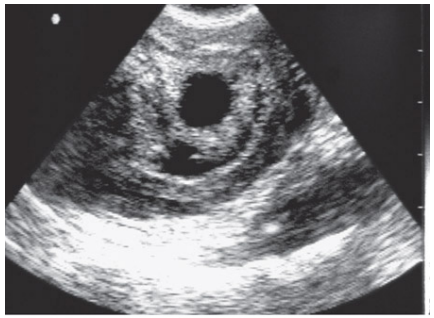
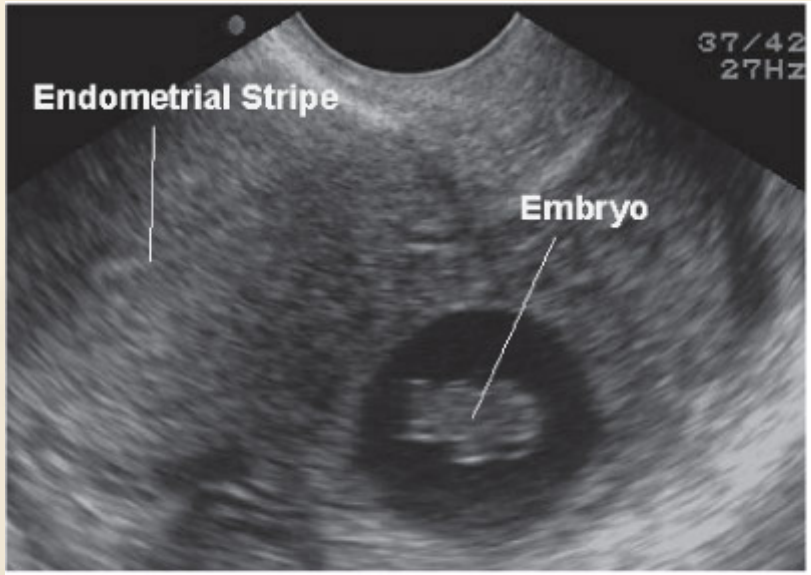
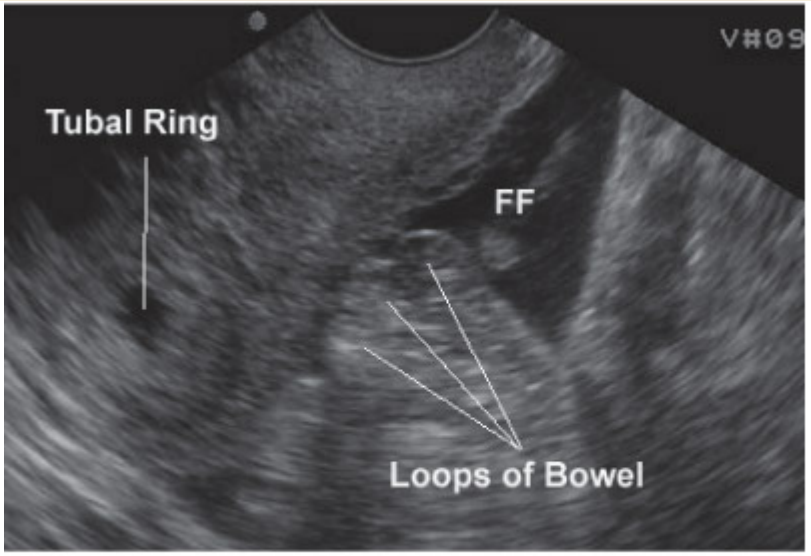


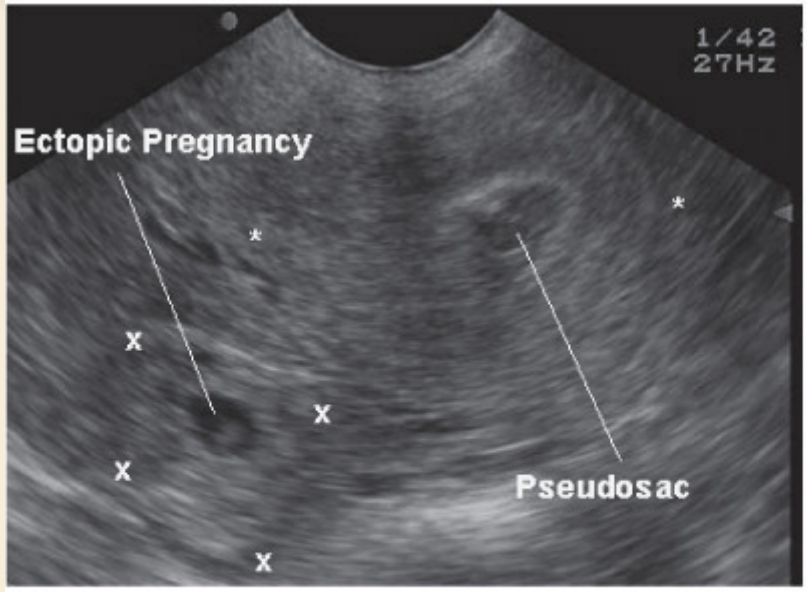
Source: Ma OJ, Mateer JR, Blaivas M: *Emergency Ultrasound*, 2nd Editio
http://www.accessemergencymedicine.com

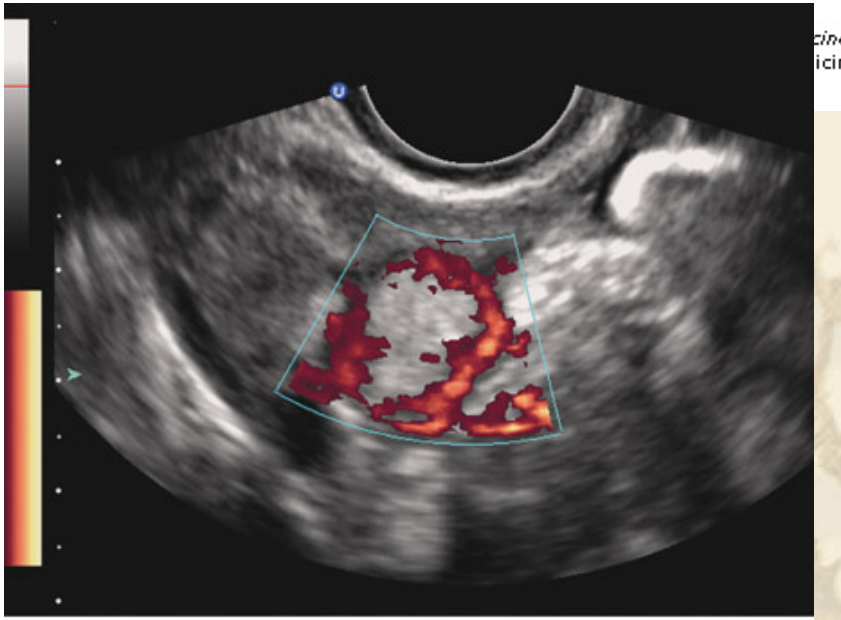
Source: Ma OJ, Mateer JR, Blaivas M: *Emergency Ultrasound*, 2nd Edition:
http://www.accessemergencymedicine.com

- **Differential diagnosis:**
  - **Appendicitis**
  - **spontaneous abortion**
  - **ovarian torsion**
  - **pelvic inflammatory disease**
  - **ruptured corpus luteum or follicular cyst**
  - **tuboovarian abscess**
  - **urinary calculi**
- **conservative management with laparoscopic surgery or medical therapy with *methotrexate***









Source: Tintinalli JE, Kelen GD, Stapczynski JS: *Tintinalli's Emergency Medicine: A Comprehensive Study Guide*, 6th Edition: http://www.accessemergencymedicine.co

Source: Ma OJ, Mateer JR, Blaivas M: *Emergency Ultrasound*, 2nd Edition: http://www.accessemergencymedicine.com

Diagnosis

- History and pelvic examination
- Laboratory studies
  - pregnancy test
  - CBC
  - tumor markers – α-fetoprotein and hCG
- Ultrasonography
- CT or MRI

Management

- **Asymptomatic unilocular cystic masses : conservatively**
- **If surgical management is required**
  - **minimizing the risks of subsequent infertility resulting from pelvic adhesion**
  - **conserve ovarian tissue**
- **In general, conservative surgery is appropriate**

Management

- **Laparoscopy**
  - **to confirm the diagnosis**
  - **to perform irrigation, lysis of adhesions,**
  - **draninage and irrigation of unilateral or bilateral pyosalpinx or tuboovarian abscess**

♣ associated with a risk of major complications (bowel obstruction and bowel or vessel injury)

Reproductive Age Group

- **Differential Diagnosis**
- **Diagnosis and Management**

Differential Diagnosis

Table 13.8. Conditions Diagnosed as a Pelvic Mass in Women of Reproductive Age

Full urinary bladder

Urachal cyst

Sharply anteflexed or retroflexed uterus

Pregnancy (with or without concomitant leiomyomas)
- Intrauterine
- Tubal
- Abdominal

Ovarian or adnexal masses
- Functional cysts
- Inflammatory masses
  - Tuboovarian complex
  - Diverticular abscess
  - Appendiceal abscess
- Matted bowel and omentum
- Peritoneal cyst
- Stool in sigmoid
- Neoplastic tumors
  - Benign
  - Malignant

Paraovarian or paratubal cysts

Intraligamentous 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

Differential Diagnosis

- **Most common tumor**
  - **Mature cystic teratoma or dermoid cyst**
  - **Endometrioma**
- **Uterine masses**
- **Most ovarian tumors(80~85%) : benign**
- **20~44 years : 2/3 of ovarian tumors → benign**

Differential Diagnosis

Ovarian masses

- **Symptom**

- Nonspecific

- Abdominal distension, abdominal pain or discomfort , lower abdominal pressure sensation

- Urinary or gastrointestinal symptoms

- Vaginal bleeding (related to estrogen production)

- Acute pain: adnexal torsion , cyst rupture or bleeding into a cyst

Differential Diagnosis

Ovarian masses

- Pelvic finding

Benign tumor	Malignant tumor
Unilateral	Bilateral
Cyst	Solid part
Mobile smooth	Fixed
	Irregular Ascites Cul-de-sac nodules Rapid growth rate

Differential Diagnosis

Non neoplastic ovarian masses

- Ovarian cysts are common and generally cause no trouble.

- Occasionally, ovarian cysts may cause a problem by:
  - Delaying menstruation
  - Rupturing
  - Twisting
  - Causing pain
  - Bleeding

- 95% of ovarian cysts disappear spontaneously, usually after the next menstrual flow.

- Those that remain and those causing problems are often removed surgically.

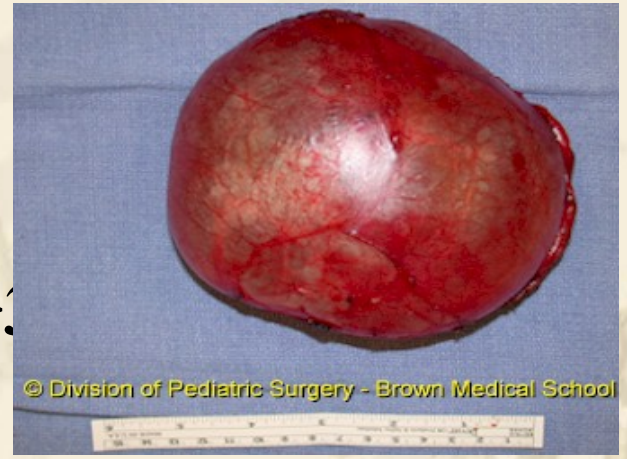
Differential Diagnosis

Non neoplastic ovarian masses

- **Functional ovarian cysts**
  - Follicular cysts, corpus luteum cysts, theca luteum cysts
  - Benign , not cause symptoms or require surgical management

- **Follicular cysts**

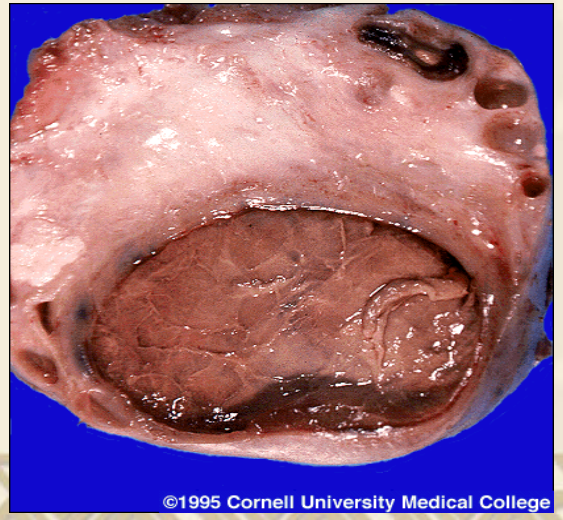
- most common functional cyst
- diameter >8cm(rare)
- defined as cystic follicle diameter >
- Rupture : resolve in 4~8wks

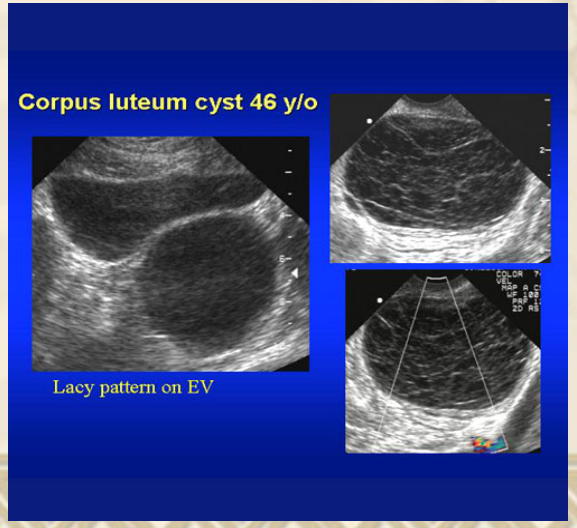


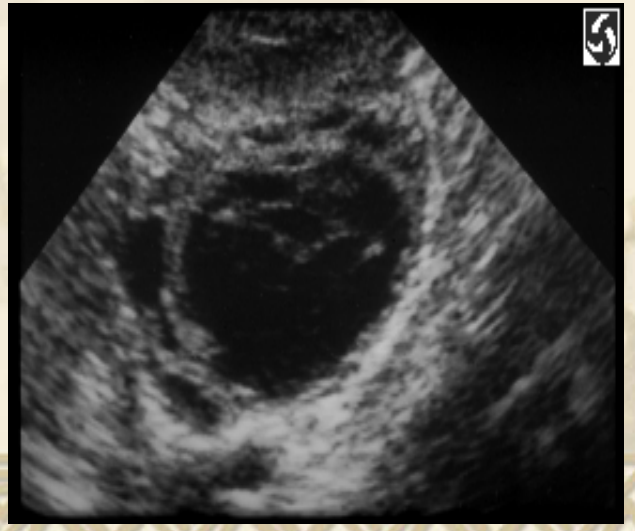
Differential Diagnosis

Non neoplastic ovarian masses

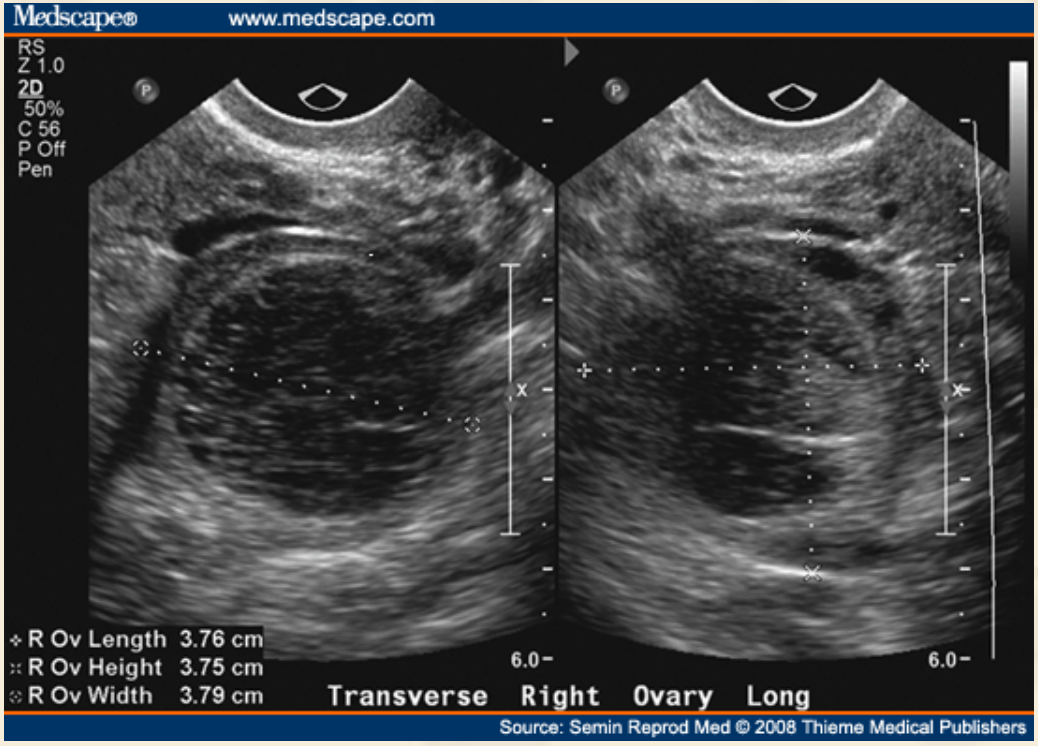
- **Corpus luteum cysts**
  - Less common than follicular cysts
  - Rupture
    → leading to hemoperitoneum & surgical management
  - Most ruptures occur on cycle days 20 ~ 26

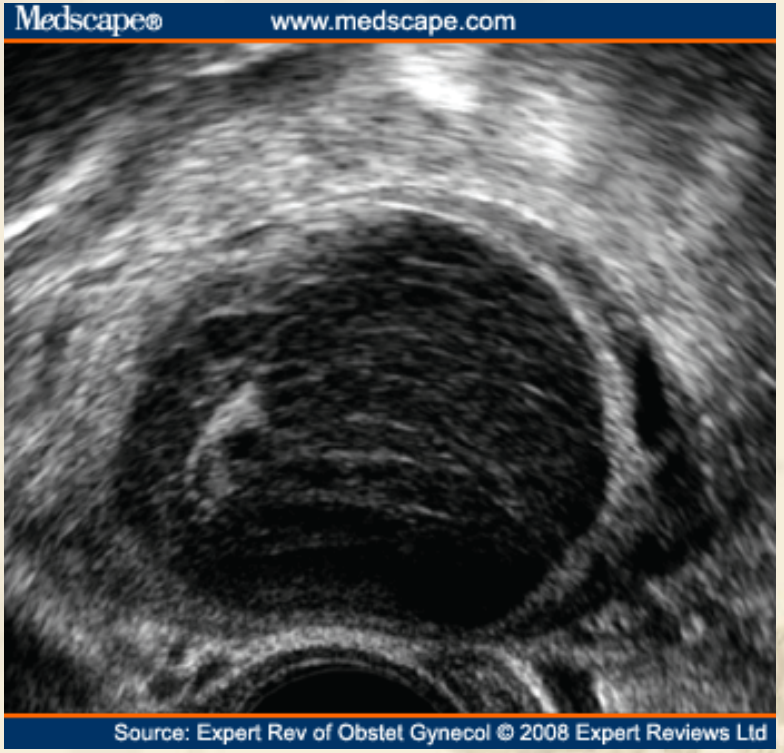




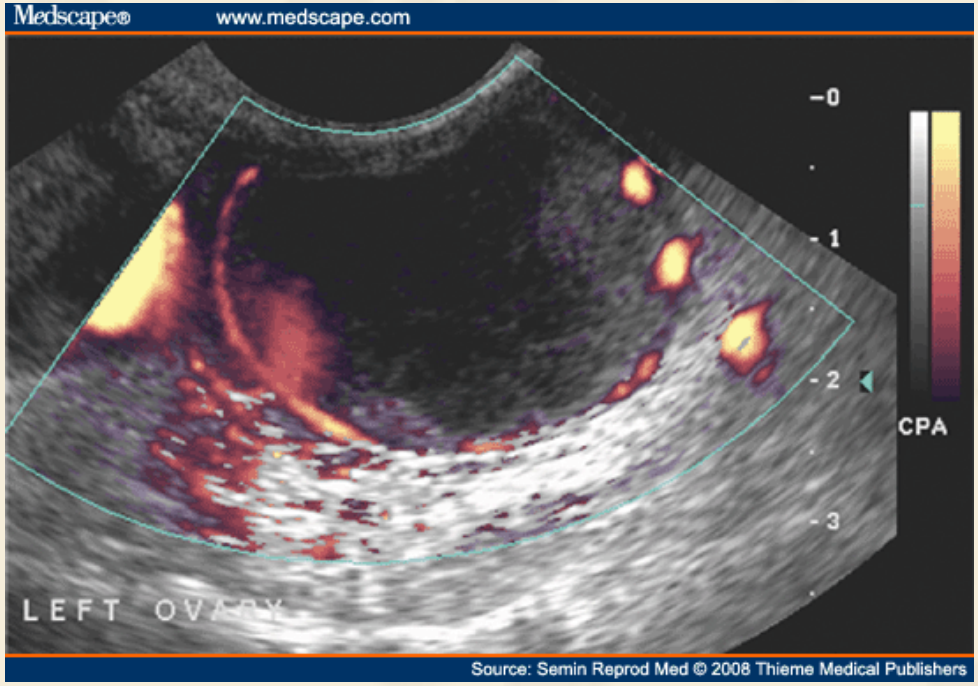


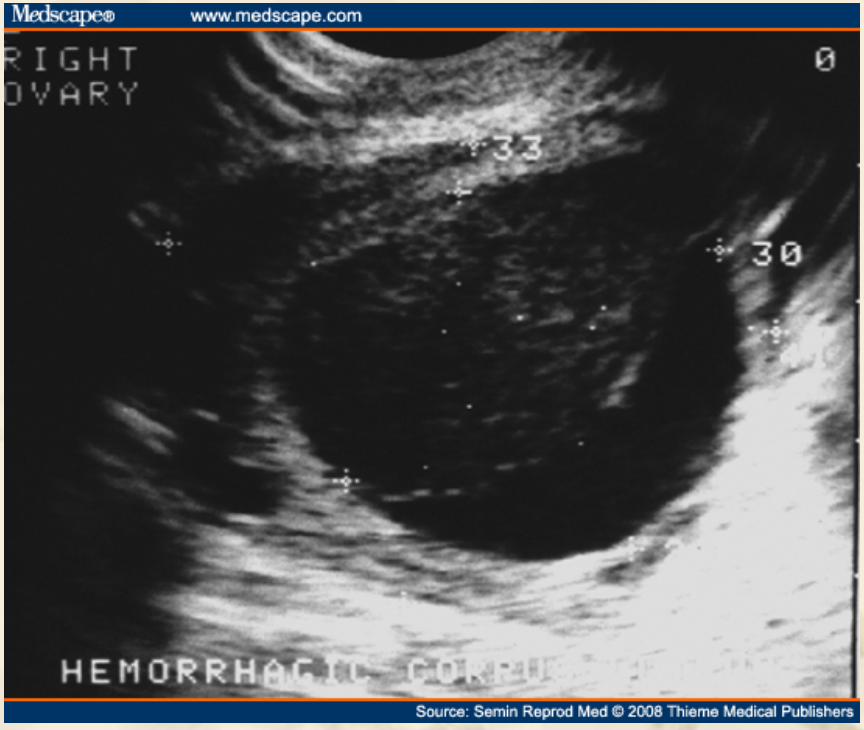
A mass with internal echoes with a pattern of fine interdigitating lines described as 'reticular', 'fishnet', 'lacelike' or 'jelly-like'. This is the typical transvaginal B-mode finding of luteal hemorrhagic cysts.





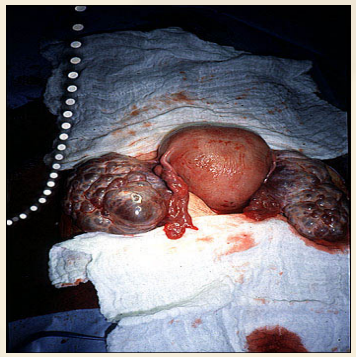
Characteristic "Ring of Fire" Surrounding a Corpus Luteum With Power Doppler.





Differential Diagnosis

Non neoplastic ovarian masses



- **Thecal luteum cysts**

- The least common

- Bilateral

- occur with pregnancy, including molar pregnancies, associated multiple gestations, molar pregnancies, choriocarcinoma, diabetes, Rh sensitization, Clomiphene citrate use, hMG-hCG ovulation induction , use of GnRH analogs

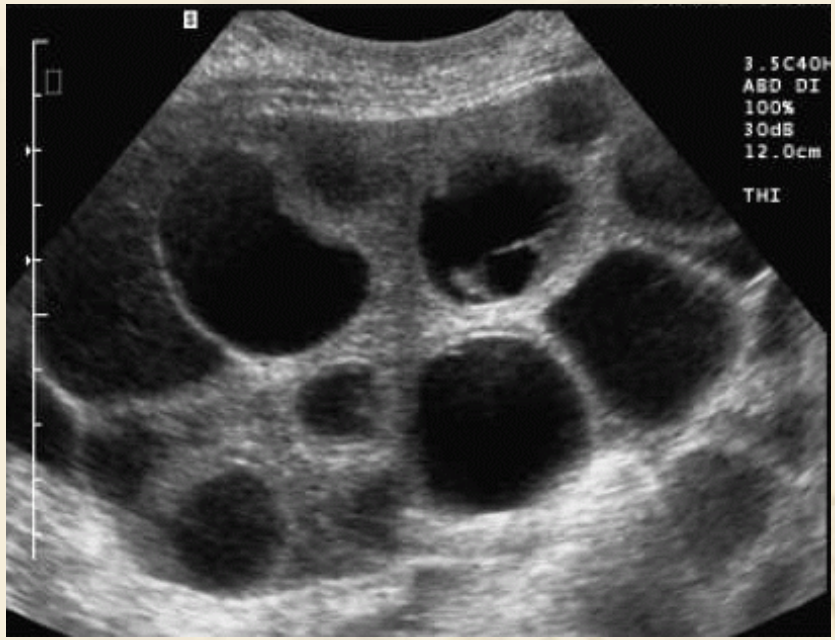
- Size

quite large(~30cm), multicystic, regress spontaneously

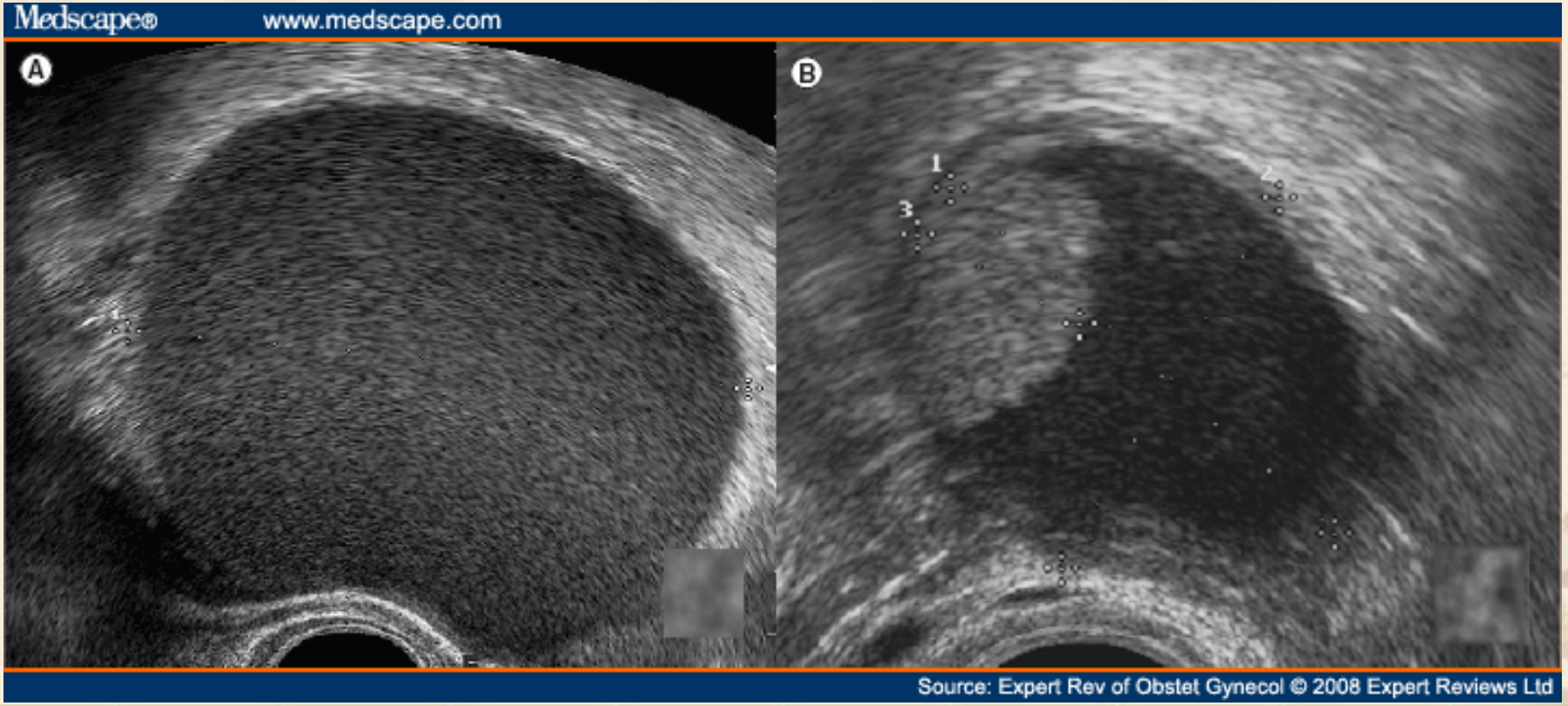
Differential Diagnosis

Non neoplastic ovarian masses

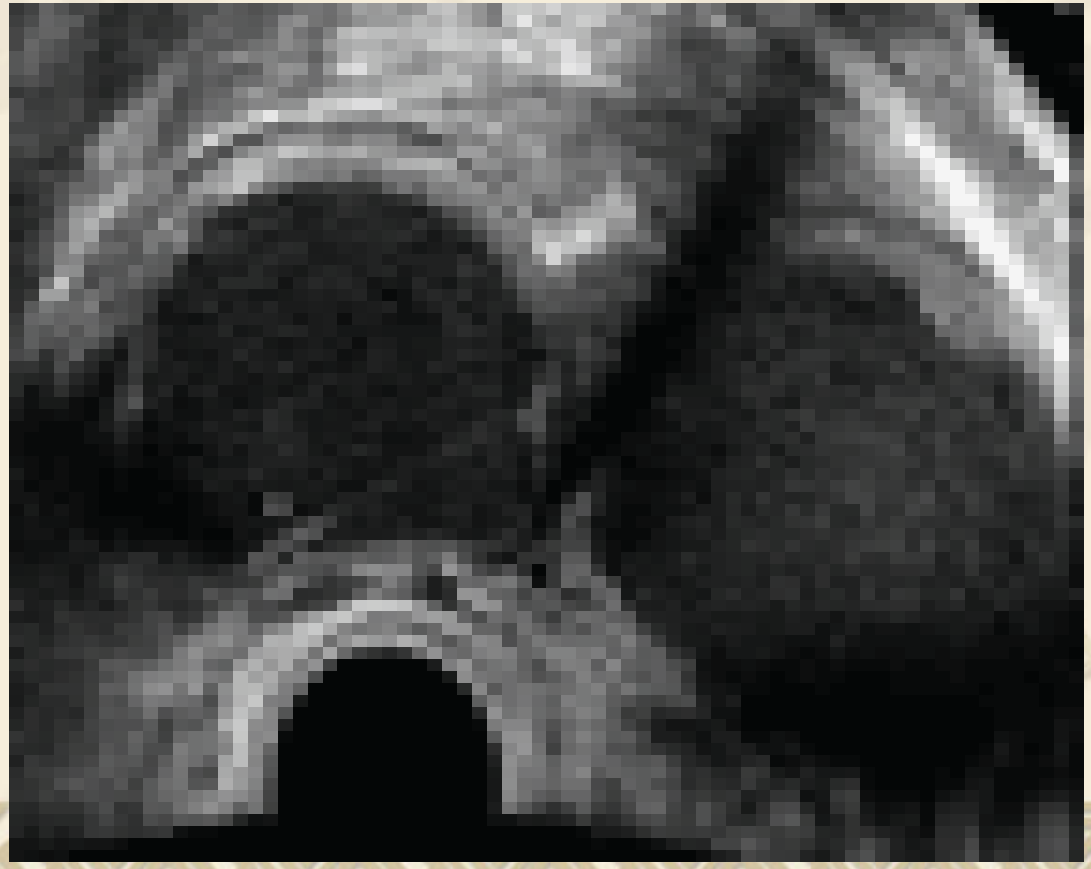
- **Smoker: two-fold increased risk of developing ovarian cysts.**
- **PCOS**
- **Endometrioma**



The typical and atypical transvaginal B-mode findings of endometrioma. **(A)** Typical findings: a round homogeneous hypoechoic 'tissue', of low-level echoes, with a clear demarcation from the parenchyma and without papillary proliferation. **(B)** Atypical findings: a round-shaped homogeneous hypoechoic 'tissue' of low-level echoes with an echogenic portion. This kind of mass must be evaluated by color Doppler to exclude the presence of flow in this intracystic portion.



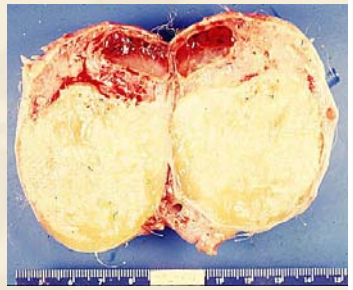
The presence of ovaries (containing one endometrioma each) that are joined together behind the uterus in the cul-de-sac are called 'kissing ovaries'.



Differential Diagnosis

neoplastic ovarian masses

- **Dermoid cysts**



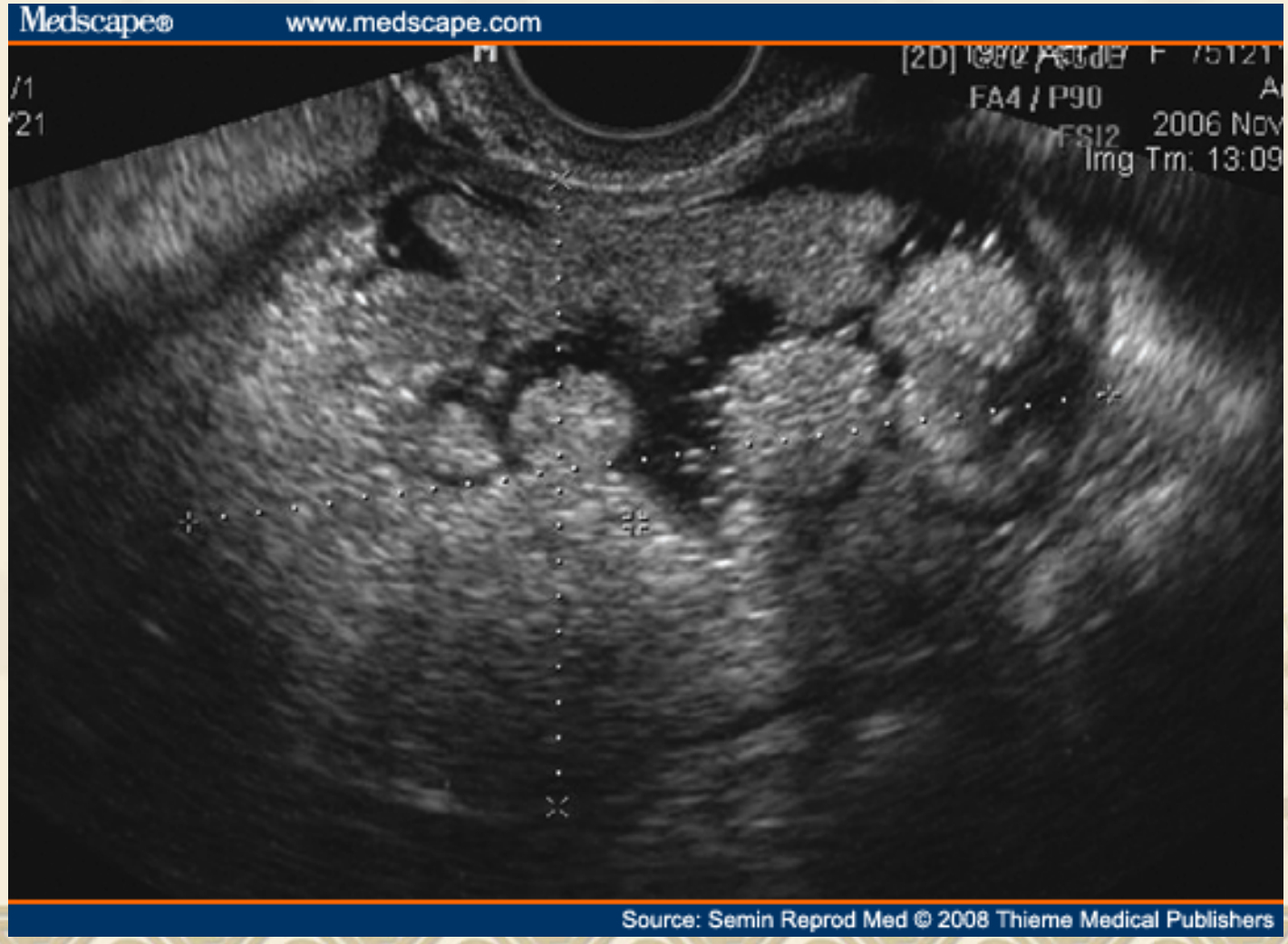
  - **Malignant transformation**
    - **<2% of dermoid cysts (in all ages)**
    - **most cases occur in women >40 years of ages**

- **Risk of torsion : 15% (more frequently with ovarian tumors in high-fat content → float within the abdominal and pelvic cavity)**

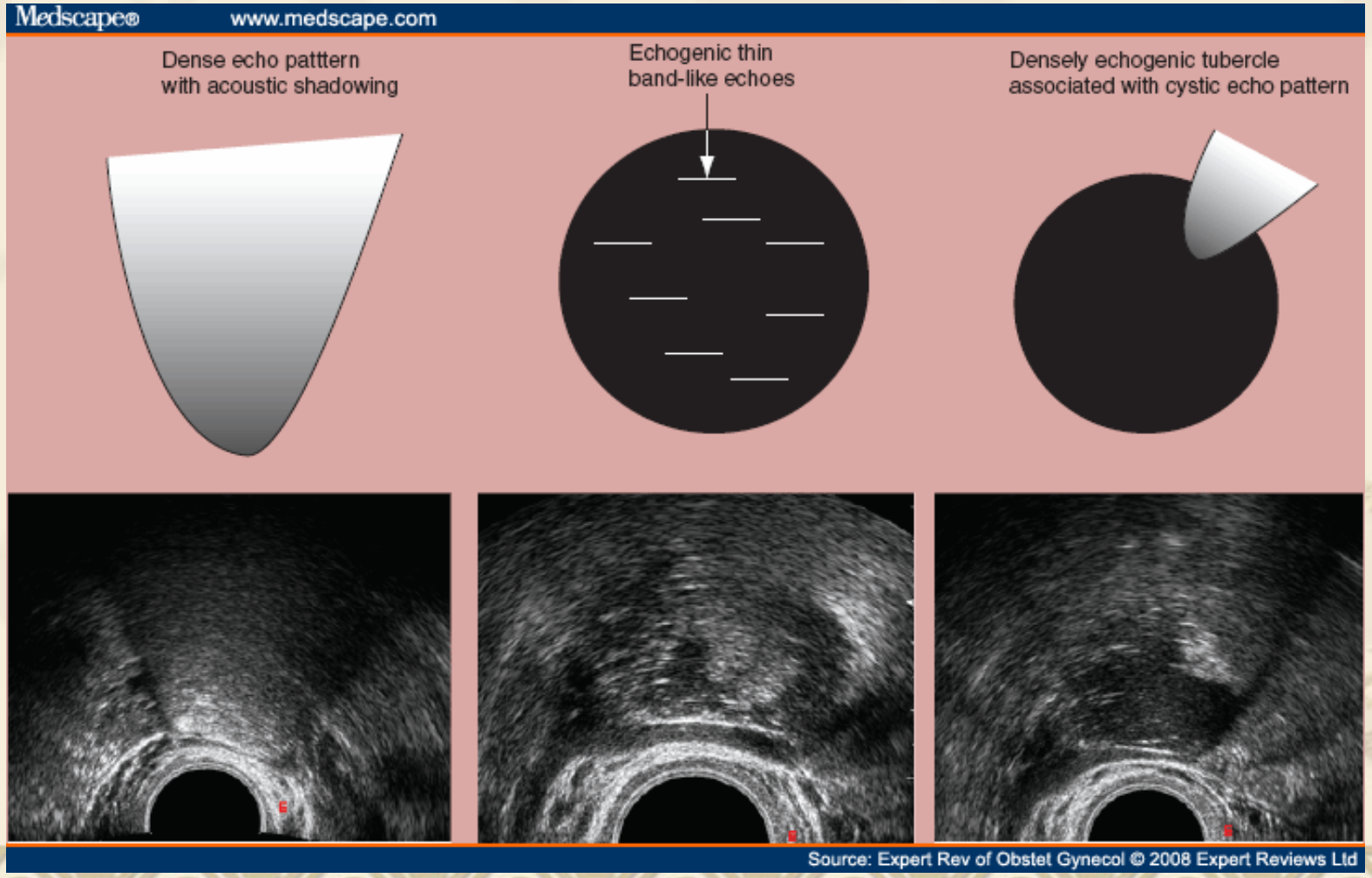
- **Bilateral :10%**

- **Ovarian cystectomy is almost always possible, even if it appears that only a small amount of ovarian tissue remains**

Mature Cystic Teratoma (Dermoid), With a Somewhat Bizarre Appearance.



Typical transvaginal B-mode findings of cystic teratoma.



Differential Diagnosis

neoplastic ovarian masses

The risk of epithelial tumors increases with age

	Serous tumor	Mucinous ovarian
characteristics	Psammoma bodies : fine calcific granulation – >scattered within the tumor and visible on radiograph	grow to large dimensions difficult to distinguish histologically from metastatic gastro-intestinal malignancies
	sometimes with papillary components	lobulated smooth surface
bilateral		10%
malignant	20~25% 5~10% : borderline malignant potential	5~10%

Differential Diagnosis

Other Adnexal Masses

- **Tuboovarian abscess** or inflammatory masses

- **Ectopic pregnancies**

- **Paraovarian cysts** or paratubal cysts
  : noted either on examination or on imaging studies
  - Normal bilateral ovaries can be visualized using ultrasonography
  - frequency of malignancy: quite low (2% of patients)

Diagnosis

- **Pelvic Examination**
  - including rectovaginal examination and Pap test
  - estimations of the size of a mass should be presented in centimeters

- **Other studies**

- Endometrial sampling with an endometrial biopsy or D&C
  : when both a pelvic mass and abnormal bleeding are present.
- Studies of Urinary tract : cystoscopy, ultrasonography, an intravenous pyelogram

- **Laboratory studies**

: pregnancy test, cervical cytology, CBC, ESR, testing of stool for occult blood, tumor markers –CA125

- CA125 ↑ : uterine leiomyoma, PID, pregnancy, endometriosis
  → unnecessary surgical intervention

Diagnosis

- **Imaging Studies**

  - pelvic ultrasonography,

  - CT, abdominal flat plate radiograph → seldom indicated as a primary diagnostic procedure

  - MRI : diagnosis of uterine anomalies

- **Scoring system**

  - predict benign versus malignant adnexal masses

- **Ultrasonographic indices**

  - characterizations of morphology

  : septations, solid components, ovarian size

  - demographic factors (ig, age)

  - color flow imaging and doppler waveform analysis

Diagnosis

Table 13.9. Ultrasonographic Scoring System for Adnexal Masses[a]

Clear cyst and smooth borders	1
Clear cyst with slightly irregular border; cyst with smooth walls but low-level echoes (i.e., endometrioma)	2
Cyst with low-level echoes with slightly irregular border but no nodularity (i.e., endometrioma); clear cyst in postmenopausal patient	3
Equivocal, nonspecific ultrasonographic appearance: solid ovarian enlargement or small cyst with irregular borders and internal echoes (hemorrhagic cyst or benign ovarian tumor)	4–6
Multiseptate or irregular cystic mass consistent in appearance with ovarian tumor (7, 5 less nodularity; 8–9, 5 more nodularity)	7–9
Pelvic mass as above, with ascites	10

[a]1, benign; 10, malignant.

From **Finkler NJ, Benacerraf B, Lavin PT, et al.** Comparison of CA 125, clinical impression, and ultrasound in the preoperative evaluation of ovarian masses. *Obstet Gynecol* 1988;72:659, with permission.

Management

- Management should be based on the primary symptoms and may include observation with close follow-up, temporizing surgical therapies, medical management or definitive surgical procedures
- Nonsurgical management
- Surgical management

Management

Ovarian Masses

- **Functional tumors : expectant**

- **Symptomatic cysts : evaluated promptly**

  - Mildly symptomatic masses (suspected functional) → management with analgesics rather than surgery to avoid the development of adhesions (→ impair subsequent fertility)

Management
Ovarian Masses

Indication of surgery

- severe pain
- supicion of malignancy
- torsion

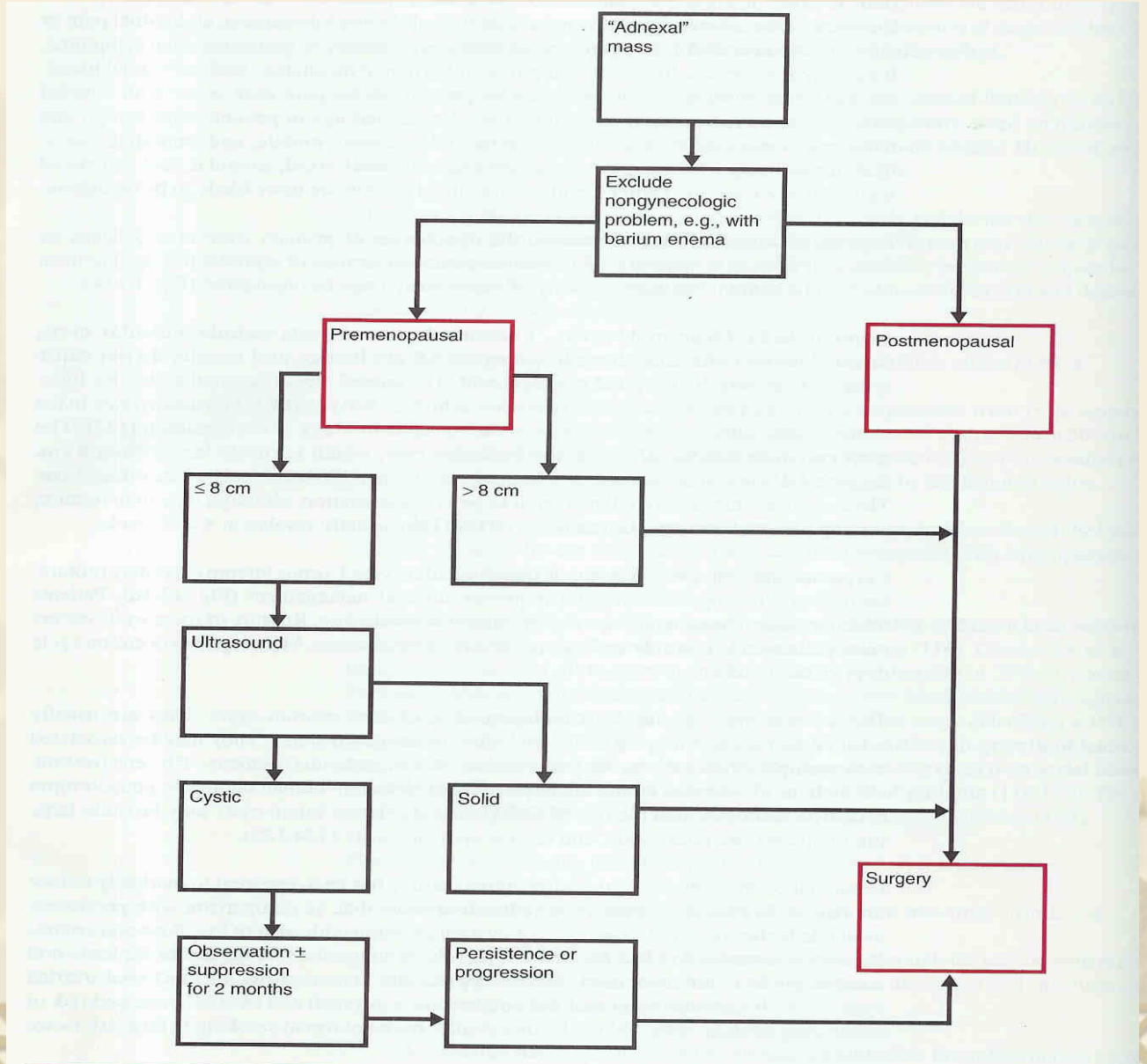


Figure 13.14 Preoperative evaluation of the patient with an adnexal mass. (From Berek JS, Hacker NF, Pra

Management

Ovarian Masses

- **Large cysts, multiloculations, septa, papillae, ascites and increased blood flow(on ultrasonography) → suspected of malignancy**

- **Ovarian tumor torsion requires oophorectomy on the basis that the untwisting (detorsion) of the ovarian pedicle would lead to emboli**

- **Recent studies have suggested that the primary management should be detorsion with ovarian cystectomy if a cyst is present**
  - **Normal ovarian function frequently results even in ovaries that do not initially appear to be viable.**
  - **This management is particularly important in prepubertal and young women**

Management

Ovarian Masses

- Ultrasonographic or CT-directed aspiration procedures should not be used in women in whom there is a suspicion of malignancy

- The choice of surgical approach (laparotomy or laparoscopy) based on
  - the surgical indications
    the patient's condition
    the surgeon's expertise and training
    informed patient preference
    the most recent data supporting the chosen approach

Postmenopausal Age Group

- **Differential Diagnosis**
- **Diagnosis and Management**

Differential Diagnosis

- **Ovarian masses**

  During the postmenopausal years, the ovaries become smaller

  - Before menopuse, the dimension are approximately 3.5X2X1.5cm

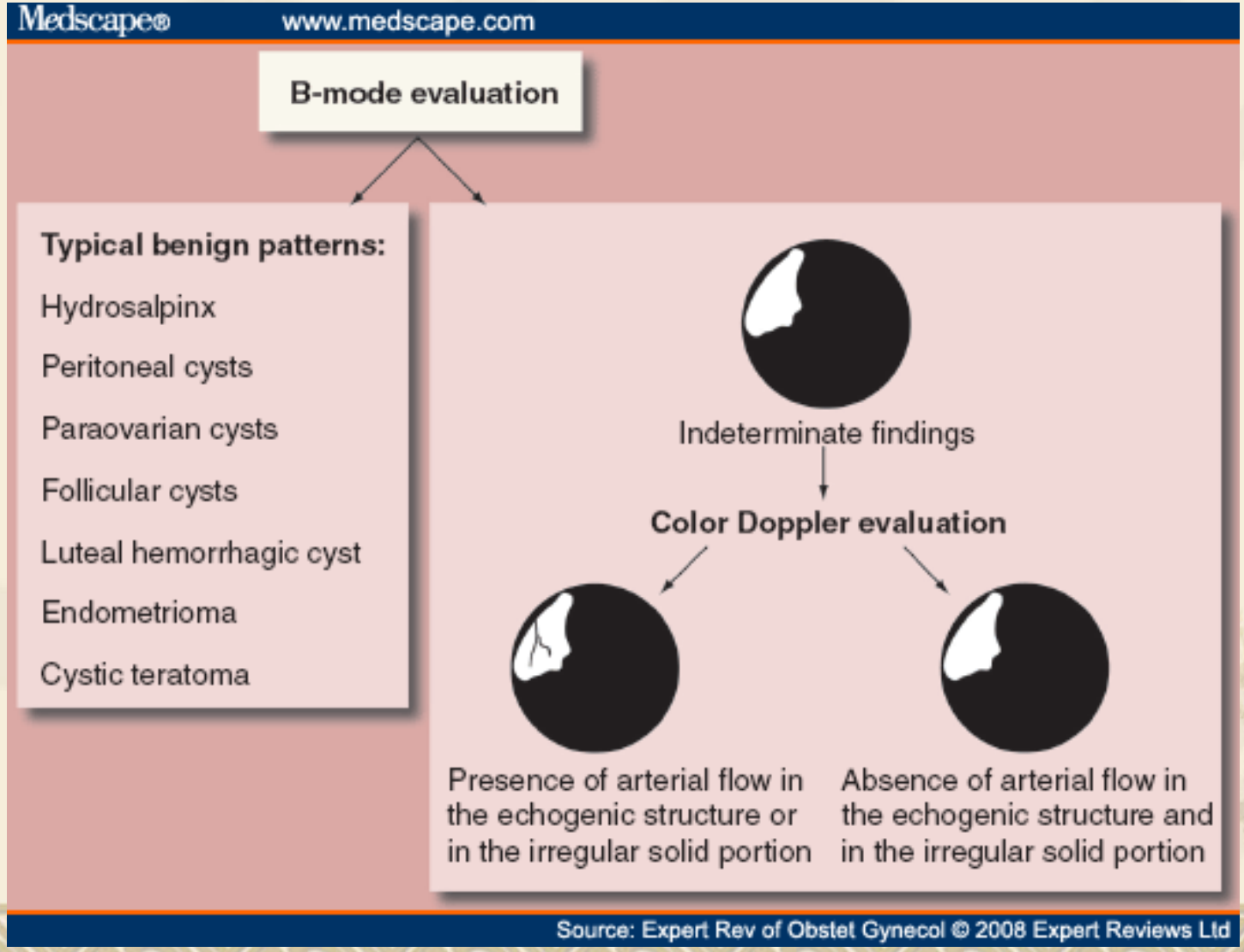
  - In early menopause, the ovaries are approximately 2X1.5X0.5cm

  - In late menopause they are even smaller : 1.5X0.75X0.5cm

- **Ovarian cancer**

  - **predominant**
  - **average patient age : 56~60 years**

Flow chart for the diagnosis of ovarian cancer.



Diagnosis

- History : personal and family medical Hx
- Pelvic Examination
- Ultrasonography
- Serum CA125

Management

- **Benign : nonoperative management**

- **Indication of surgery**
  - **based on characteristics of the mass**
  - **a family or personal medical history**
  - **a strong family history of ovary, breast, endometrial or colon cancer**
  - **a mass that appears to be enlarging**
  - **the patient's desire for definitive diagnosis**
  - **selection of the appropriate surgical procedure is critical for effective therapy**

- **Thanks for your attention!**