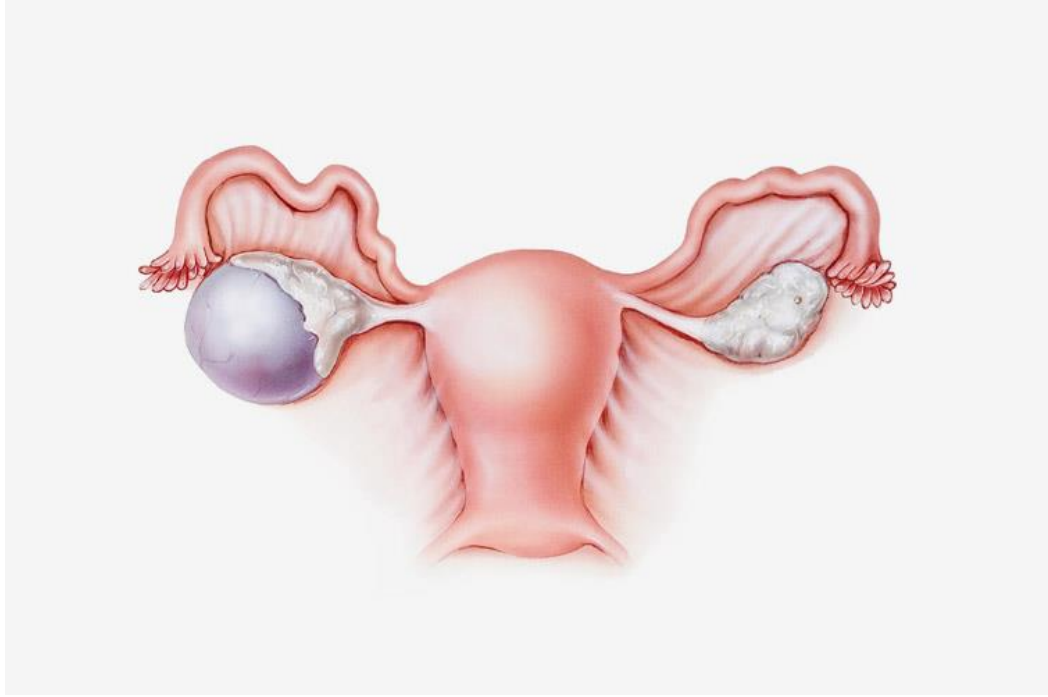
Adnexal mass in reproductive age



Dr. Tavoli

Department of Obstetrics and gynecology . Fellowship of Laparoscopy

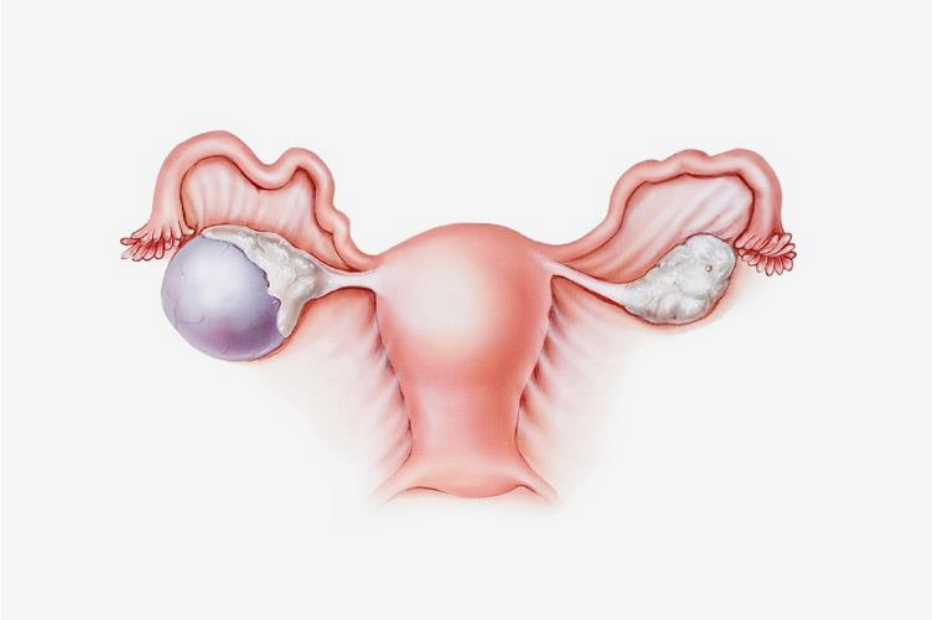
Assistant Professor. Tehran University of Medical Sciences

Types of adnexal masses

- Benign ovarian
- Benign non-ovarian
- Primary malignant ovarian
- Secondary malignant ovarian

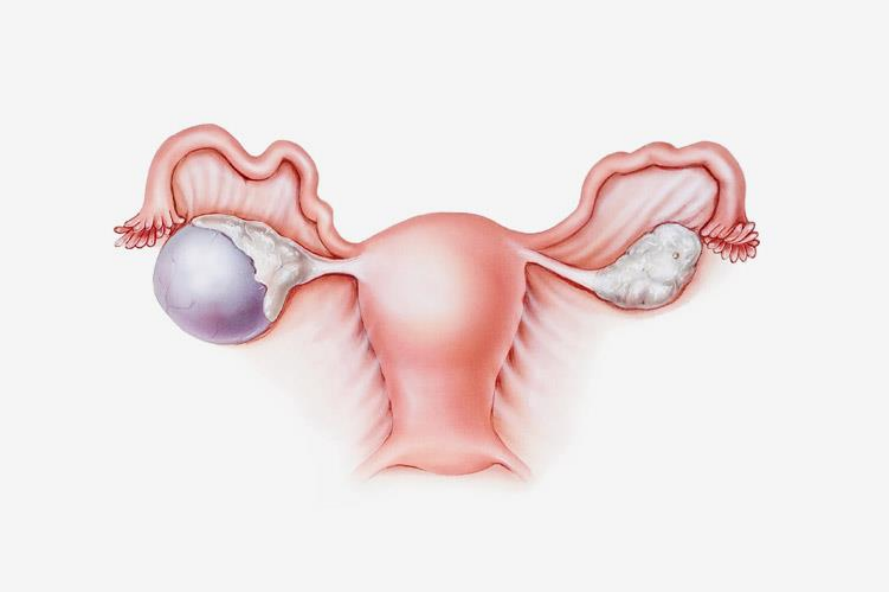
Benign ovarian

- Functional cysts
- Endometriomas
- Serous cystadenoma
- Mucinous cystadenoma
- Mature teratoma



Benign non-ovarian

- Para tubal cyst
- Hydro salpinges
- Tubo-ovarian abscess
- Peritoneal pseudo cysts
- Appendicular abscess
- Diverticular abscess
- Pelvic kidney



malignant

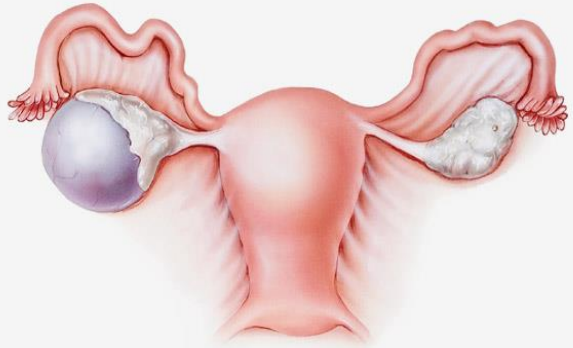
- Primary

1. ovarian Germ cell tumor
2. Epithelial carcinoma
3. Sex-cord tumor

- Secondary

1. malignant ovarian

Predominantly breast and gastrointestinal carcinoma



Preoperative assessment of women with ovarian masses

- Medical history

✓Risk factors or protective factors for ovarian malignancy

✓Family history of ovarian or breast cancer

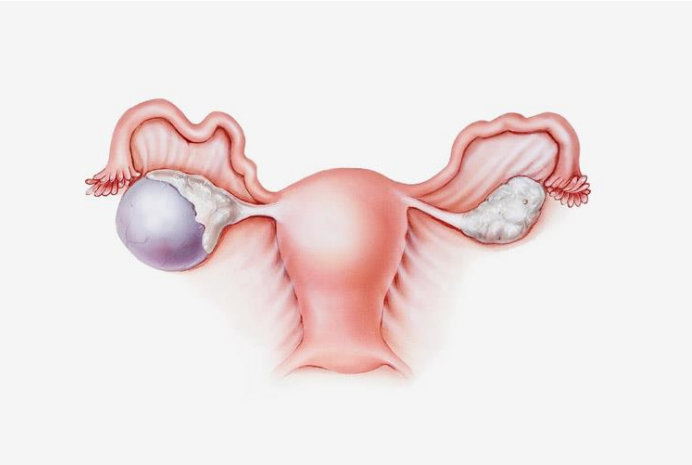
✓Symptoms of endometriosis

- Physical examination

✓ Abdominal and vaginal examination

✓ The presence or absence of local lymphadenopathy

✓Examination for complicated cyst in acute pain



Laboratory test

- CA-125

is not necessary if ultrasonography suspicious a simple ovarian cyst

If it is raised and less than 200 units/ml, further investigation may be appropriate to exclude/treat the common differential diagnoses

We do not routinely follow with CA 125 in premenopausal patients

If serum CA-125 assay more than 200 units/ml, discussion with a gynaecological oncologist is recommended

- AFP and hCG

Should be measured in all women under 40 with

a complex ovarian mass

- ROMAI

(combines serum CA 125 and HE4 with menopausal status)

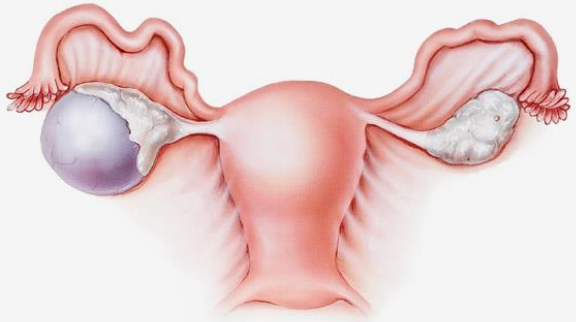


Table 2. Serum biomarkers to aid in diagnosing ovarian germ cell and sex-cord stromal tumours

Tumour type	Serum biomarkers					
	hCG	AFP	LDH	CA 125	Inhibin	Testosterone/androstenedione
Dysgerminoma	+	–	+	–	–	–
Endodermal sinus tumour	–	+	–	–	–	–
Embryonal carcinoma	+	+	–	–	–	–
Polyembryoma	+	+	–	–	–	–
Choriocarcinoma	+	–	–	–	–	–
Immature teratoma	–	±	±	±	–	–
Granulosa cell tumour	–	–	–	–	+	Rare
Sertoli–Leydig cell	–	–	–	–	–	+

AFP: alpha-fetoprotein; CA 125: cancer antigen 125; hCG: human chorionic gonadotropin; LDH: lactate dehydrogenase.

Imaging

- TVS or TRS

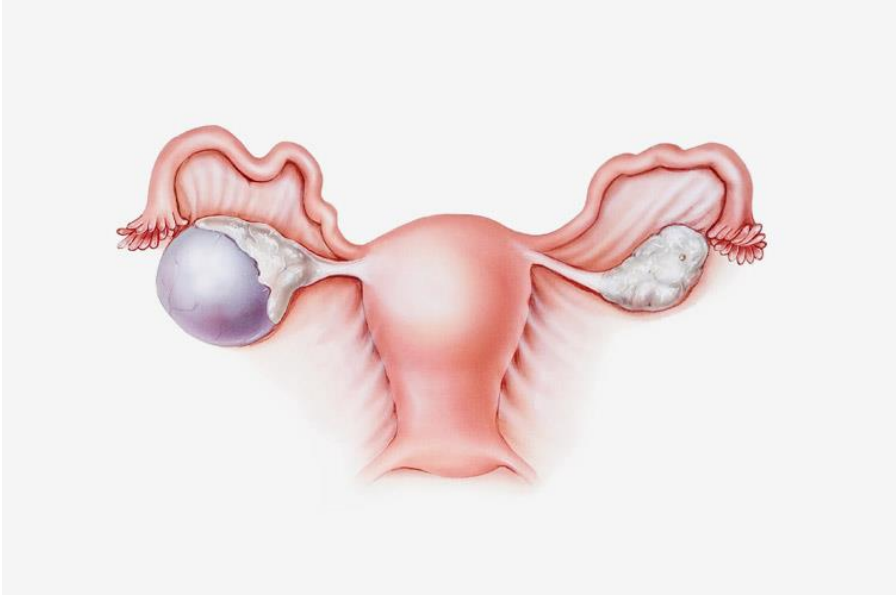
❑IOTA simple roles (IOTA adnexa model)

❑US O-RADS (Ovarian/adnexal reporting and data system)

- MRI(DWI and Dynamic) MR O-RADS

❑Color score(Vascularisation)

- ORADS(0= Technically incomplete exam,
- 1=normal/physiological ovary,
- 2=almost certainly benign,
- 3= low risk,
- 4=Intermediate risk,
- 5= High risk)



IOTA simple roles

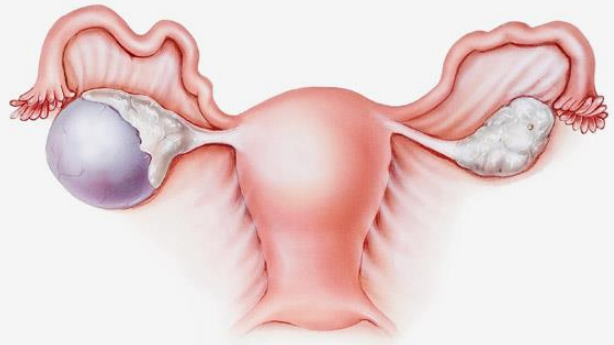


Table 1. International Ovarian Tumor Analysis group simple rules for tumour identification: malignant and benign sonographic features

Malignant (M) Rules	Benign (B) Rules
M1: Irregular solid tumour	B1: Unilocular cyst
M2: Presence of ascites	B2: Presence of solid components, with largest diameter <7 mm
M3: Presence of at least 4 papillary structures	B3: Presence of acoustic shadows
M4: Irregular multilocular-solid tumour, with largest diameter ≥100 mm	B4: Smooth multilocular tumour, with largest diameter <100 mm
M5: Very strong blood flow (colour score 4)	B5: No blood flow (colour score 1)

SOURCE: International Ovarian Tumor Analysis group. Available at www.iotagroup.org/iota-models-software/iota-simple-rules-and-srisk-calculator-diagnose-ovarian-cancer.

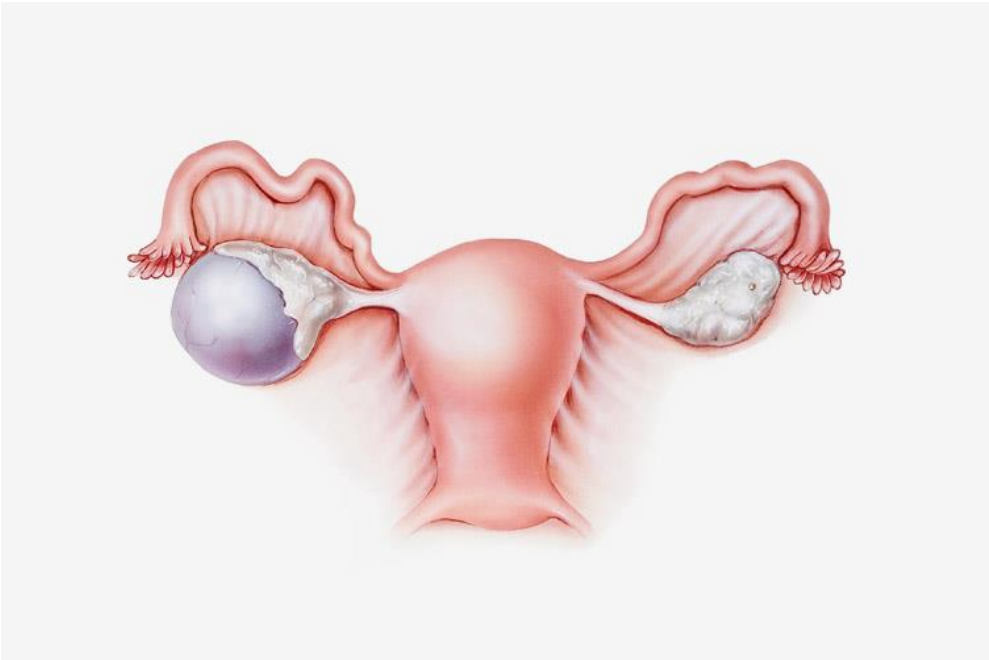
Referral to gynecology oncology(ACOG guideline)

❑Premenopausal

- Very elevated CA125
- Ascites
- Evidence of metastasis

❑Postmenopausal

- Very elevated CA125
- Ascites
- Evidence of metastasis
- Nodular or fix pelvic mass

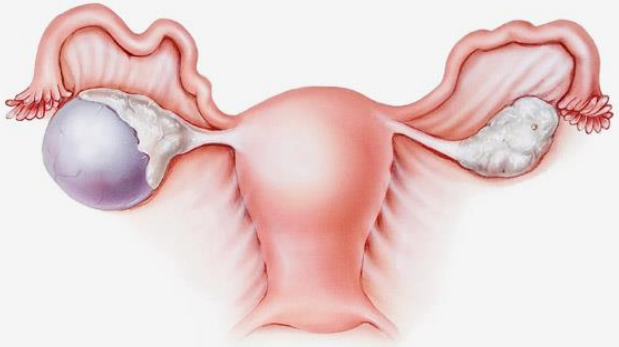


Management of emergency situation

- Acute pain — Patients who present with acute pain and an ovarian mass should be evaluated without delay and may require urgent intervention.
- Ectopic pregnancy is a common gynecologic emergency, but ectopic gestations are usually located in the fallopian tube and rarely, an ovarian pregnancy is present.
- Torsion of the ovary or fallopian tube requires

urgent surgical treatment to avoid ischemic injury.

- Ruptured or hemorrhagic ovarian cyst

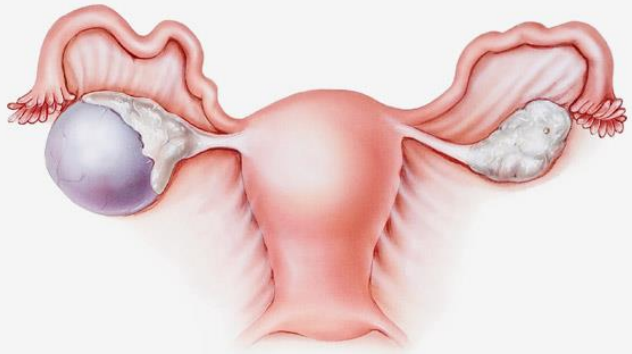


Management of non-emergency situations

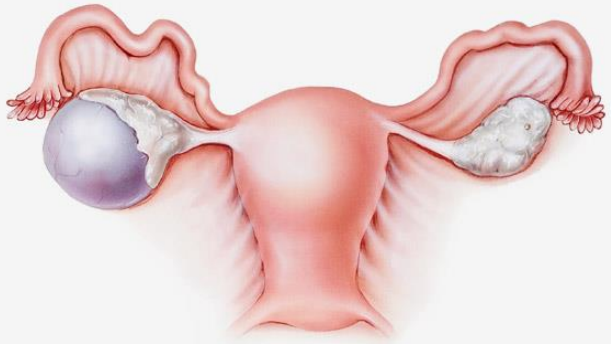
- Asymptomatic ovarian masses <10 cm in diameter characterized as benign on ultrasound can be managed conservatively. Initially by repeat ultrasound in 8 to 12 weeks, preferably in the proliferative phase of the menstrual cycle for premenopausal women
- In premenopausal women, symptomatic ovarian masses characterized as benign on ultrasound should be managed surgically with cystectomy
- Patients with a mass characterized as

malignanton ultrasound should be referred

to a gynecologic oncologist.



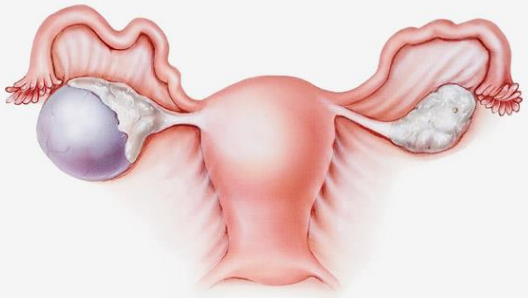
- Ovarian torsion is rarely associated with cystic masses <5 cm in diameter.
- In addition, ovarian malignancy is rarely associated with ovarian torsion
- Although, in postmenopausal women with torsion, there is a higher incidence of malignancy
- Preservation of ovarian tissue, if technically possible, is important in premenopausal women.
- For symptomatic masses characterized as benign, laparoscopy is recommended, if technically possible.
- If malignancy is suspected, patient care should be managed by a gynecologic oncologist.



Hemorrhagic ovarian cyst

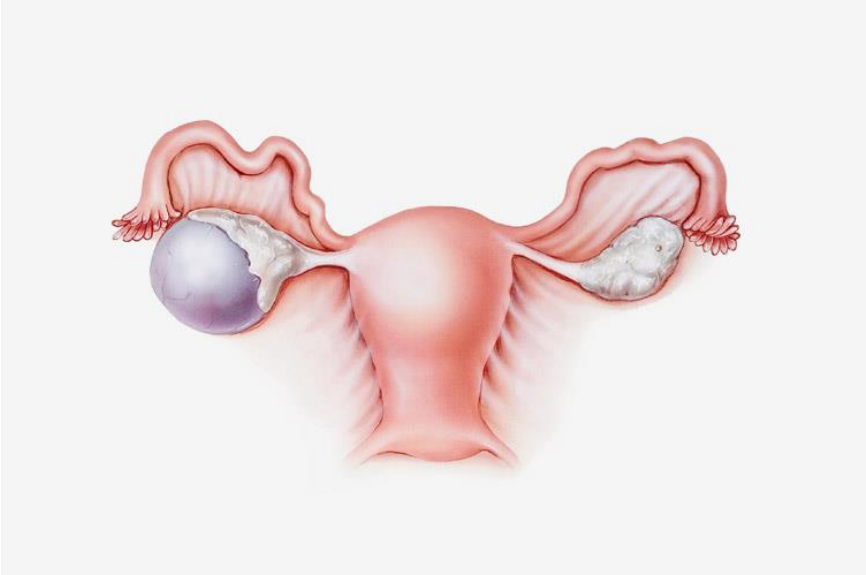
- A ruptured or hemorrhagic ovarian cyst is occasionally accompanied by significant bleeding.
- Patients with uncomplicated cyst rupture (hemodynamically stable, no evidence ongoing blood loss on laboratory evaluation or pelvic imaging) can be managed expectantly.
- Patients with complicated cyst rupture require hospital admission for close monitoring, with a possible need for surgical intervention and/or blood product replacement.
- Persistent pain or pressure

managed with analgesics in the short term



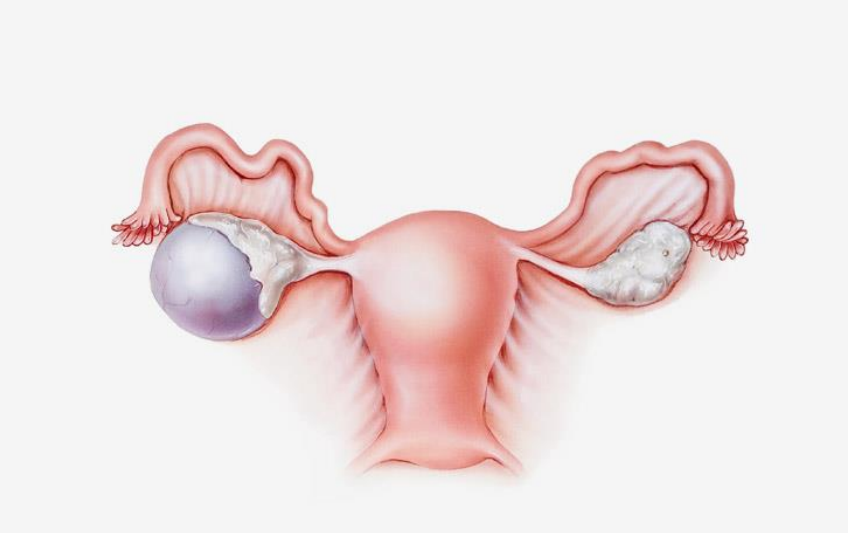
Indication of surgery

- Hemodynamic compromise,
- Increasing hemoperitoneum or decreasing hemoglobin concentration
- Persisting symptoms for 48 hours or more after presentation,
- Uncertain diagnosis or suspicion of torsion.



Recurrent physiologic cysts

- Some patients with a history of recurrent painful ovarian cysts are managed with hormonal contraceptives to inhibit ovulation.
- This prevents the formation of new physiologic ovarian cysts. Oral contraceptives (OCs) do not decrease the size of existing cysts
- Aspiration of ovarian cysts, either vaginally or laparoscopically, is less effective and is associated with a high rate of recurrence.



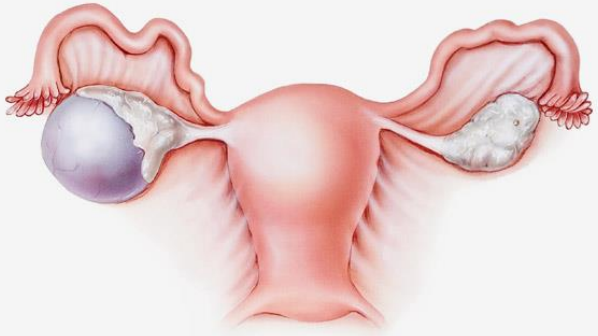
Laparoscopic approach

- The elective laparoscopic approach for ovarian masses presumed to be benign is associated with lower postoperative morbidity and shorter recovery time and is preferred to laparotomy in suitable patients
- Laparoscopic management is cost-effective because of the associated earlier discharge and return to work.
- The possibility of removing an ovary should be discussed with the woman preoperatively.
- The possibility of laparotomy should be discussed

with the woman preoperatively.

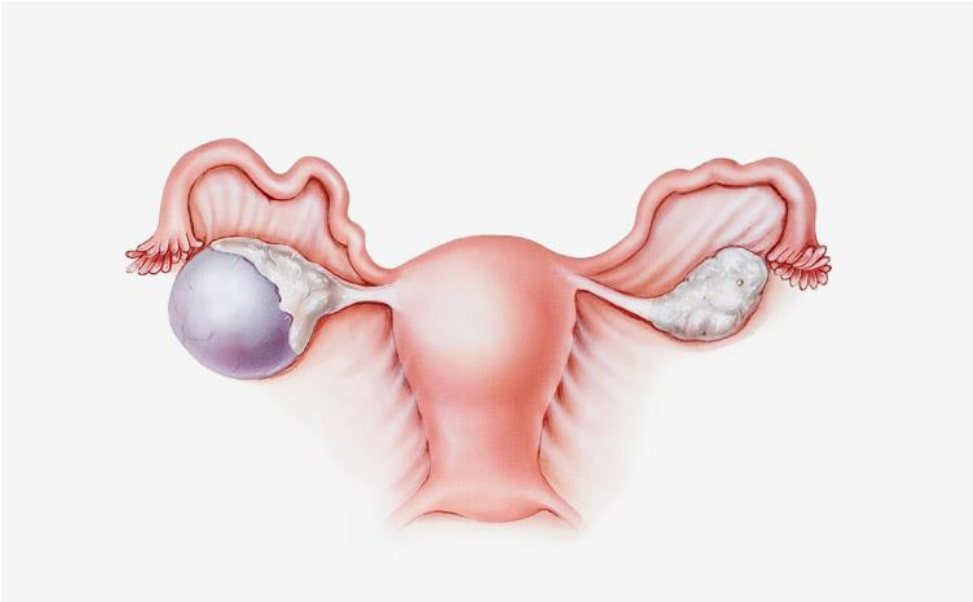
- The possibility of repeat surgery may be discussed

due to recurrence in the ovary.



Spillage of cyst contents

- Spillage of cyst contents should be avoided where possible as preoperative and intraoperative assessment cannot absolutely preclude malignancy.
- Consideration should be given to the use of a tissue bag to avoid peritoneal spill of cystic contents bearing in mind the likely preoperative diagnosis.



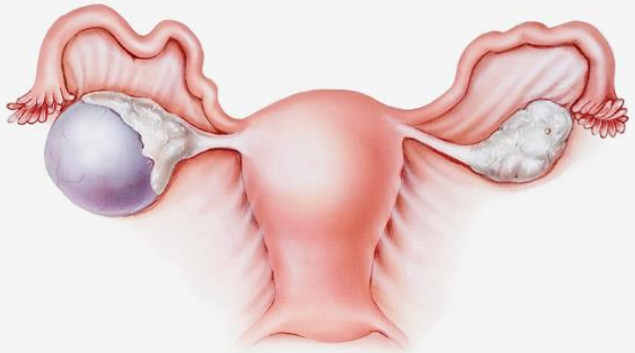
Journal of Minimally Invasive Gynecology

Volume 28, Issue 5, May 2021, Pages 957-970

Review Article

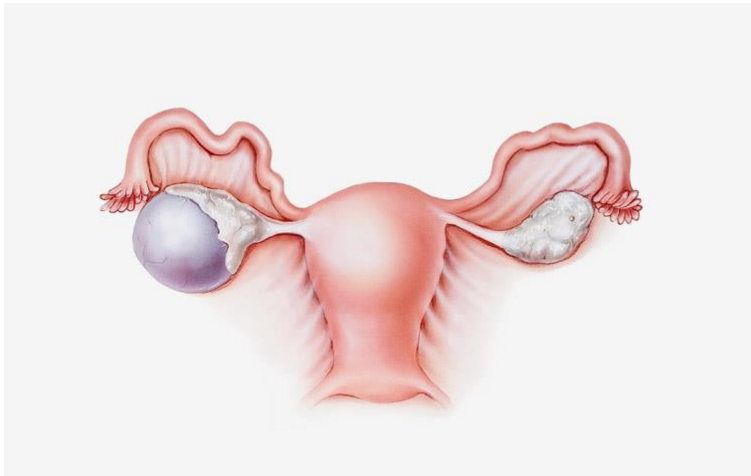
Short- and Long-Term Complications of Intraoperative Benign Ovarian Cyst Spillage: A Systematic Review and Meta-analysis

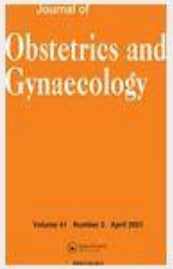
Neta Eisenberg MD [1, 3, 6], Alexander Volodarsky-Perel MD [2, 4, 6], Ian Brochu MD [1], Catherine Tremblay MD [1], Emilie Gorak MD [1], Emilie Hudon MD [1], Suzanne Fortin MD [1], Liron Kogan MD [5], Chantal Rivard MD [1]



- A total of 28 studies were included.
- Intraoperative benign ovarian cyst rupture was not associated with adverse short- and long-term outcomes such as reoperation ,infertility ,transient fever , and readmission
- However, intraoperative spillage was found to be associated with increased risk for benign recurrence
- Only desmoid cysts showed an association between intraoperative cyst rupture and postoperative chemical peritonitis
- Although the surgical approach (minimally invasive vs open)

should not be affected by the concern regarding an intraoperative cyst rupture, maximal efforts should be made to prevent spillage.





Journal of Obstetrics and Gynaecology
Volume 41, 2021 - Issue 3

Gynaecology

A cystectomic technique with low risk of rupture for women with benign ovarian cyst

Kenro Chikazawa, Ken Imai, Liangcheng Wang, Tomoyuki Kuwata & Ryo Konno

Pages 459-461 | Published online: 04 Jun 2020

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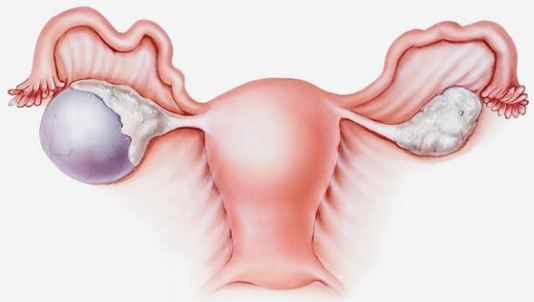
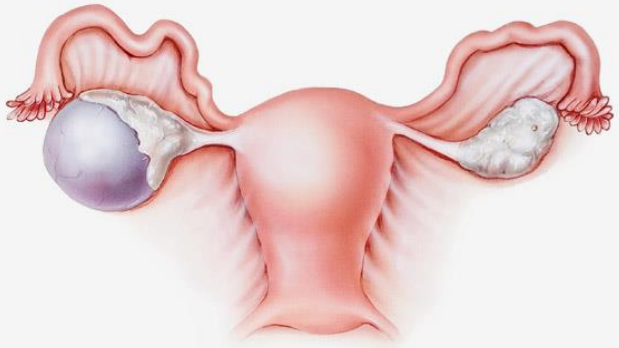
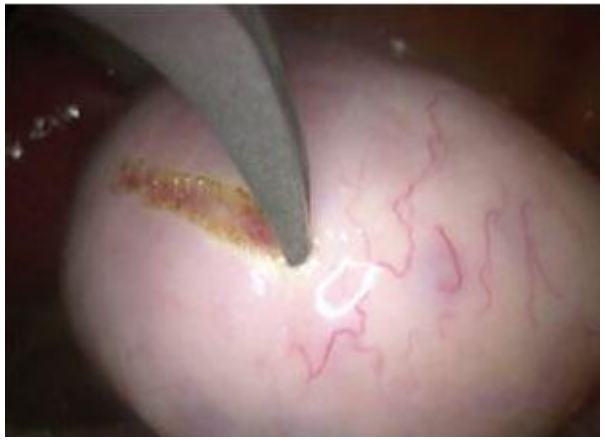


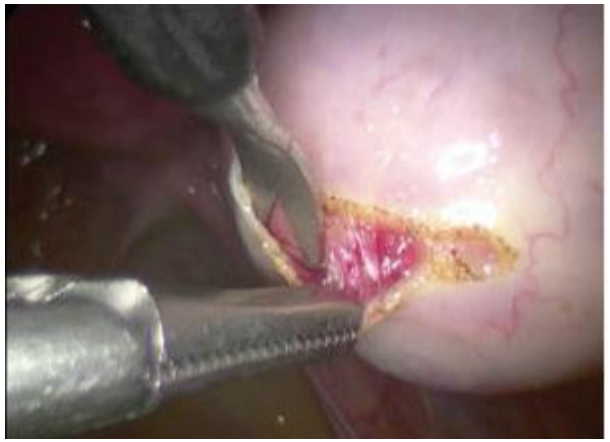
- Cystectomy was performed using Maryland forceps with gentle open and close dissecting motions only.
- Soft traction between the cortex and cyst wall as far as the nearby dissection plane without grasping the cyst wall was essential.
- In patients with multicystic ovarian cysts, making a plane at the notch between cysts decreases the risk of cyst rupture.
- This technique allows the correct identification

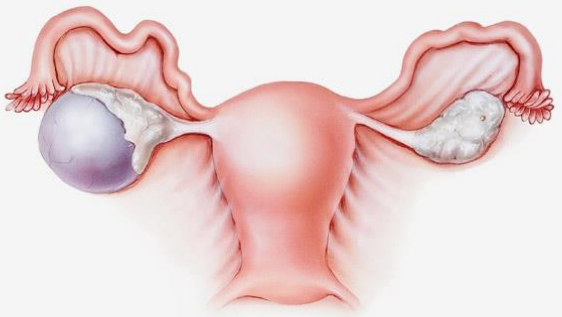
of the cleavage plane for dissection

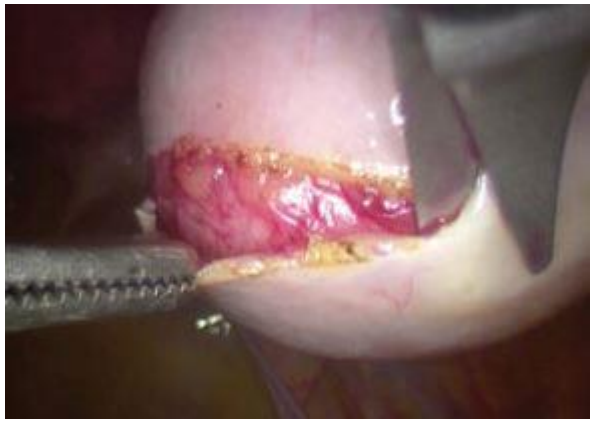
and avoids the risk of cyst

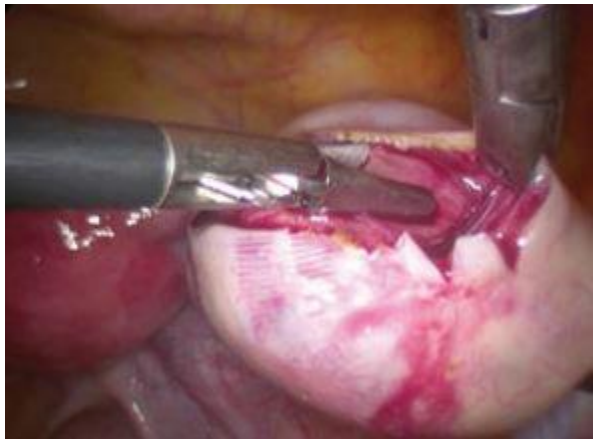


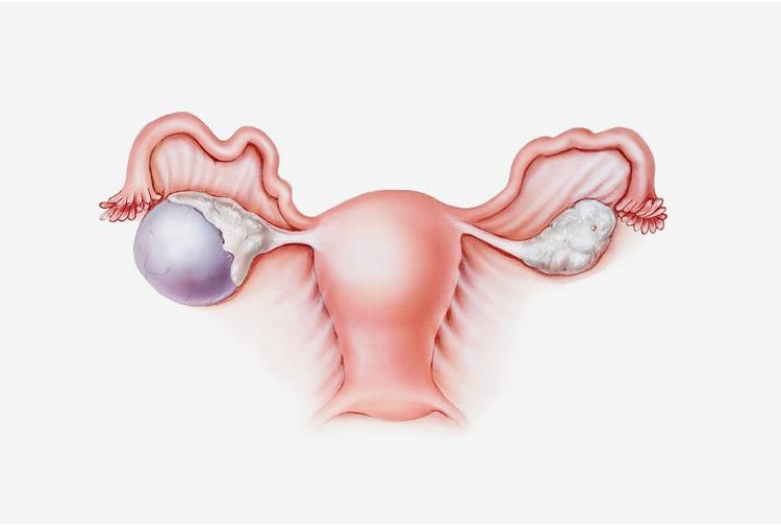


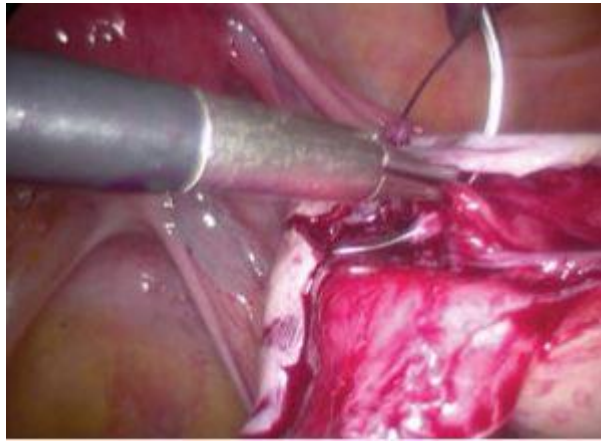


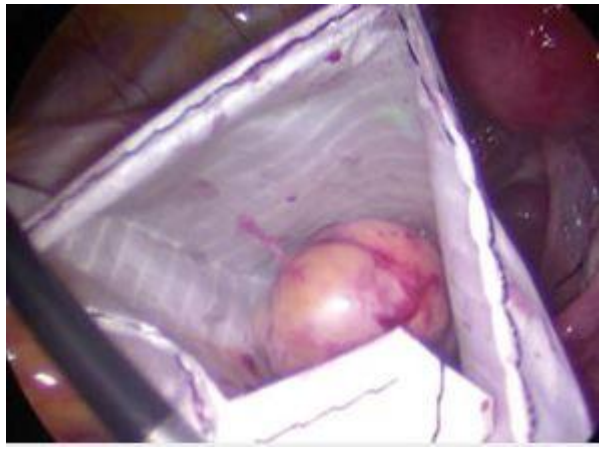


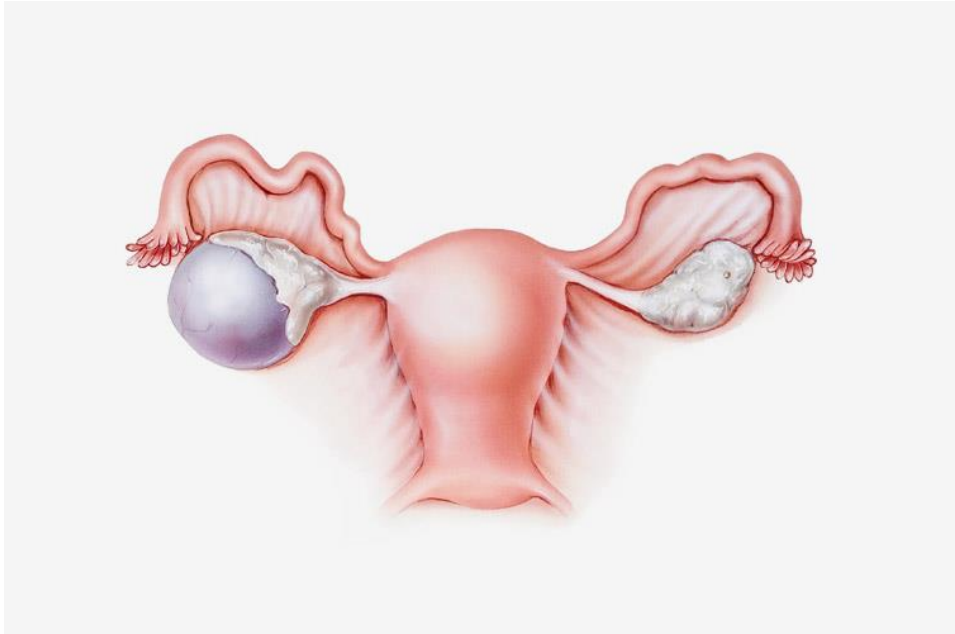












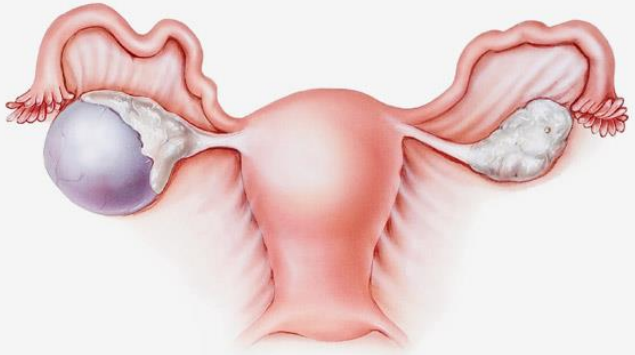
Endometrioma

- A particular type of ovarian mass, an endometrioma, may be associated with dysmenorrhea, pelvic pain, or dyspareunia and infertility
- Diagnosis with Ultrasound.
- Surgical removal is the usual treatment of a symptomatic endometrioma.
- Ovarian reserve evaluated AMH is reduced

in patients with ovarian endometriomas

compared to both benign ovarian cysts,

and healthy ovaries.



Review Article • Rev. Bras. Ginecol. Obstet. 41 (06) • June 2019 • https://doi.org/10.1055/s-0039-1692697 COPY

The Impact on Ovarian Reserve of Different Hemostasis Methods in Laparoscopic Cystectomy: A Systematic Review and Meta-analysis

Impacto das diferentes técnicas hemostáticas empregadas na ooforoplastia videolaparoscópica sobre a reserva ovariana: revisão sistemática e meta-análise

Clara Micalli Ferruzzi Baracat Helizabet Salomão Ayroza Abdalla-Ribeiro Raquel Silveira da Cunha Araujo

Wanderley Marques Bernando Paulo Ayroza Ribeiro ABOUT THE AUTHORS

Prevent of ovarian reserve decreased

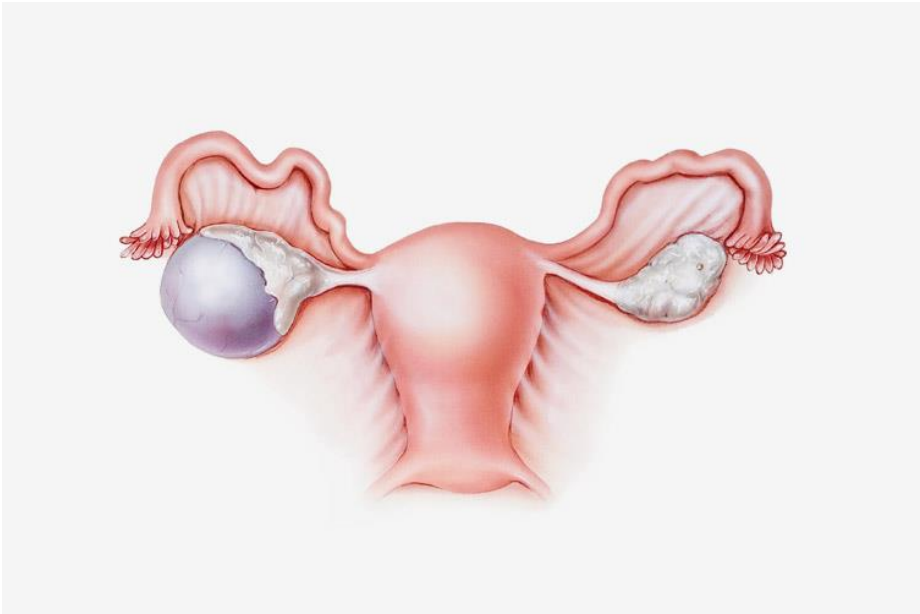
- Suturing of the ovary instead of diathermia

✓has lower damaged and reducing the likelihood of the ovary adhering to the pelvic side wall.

- Bipolar instead of ultrasonic energy(equal after several months)
- Injection of vasoconstrictors to cyst wall

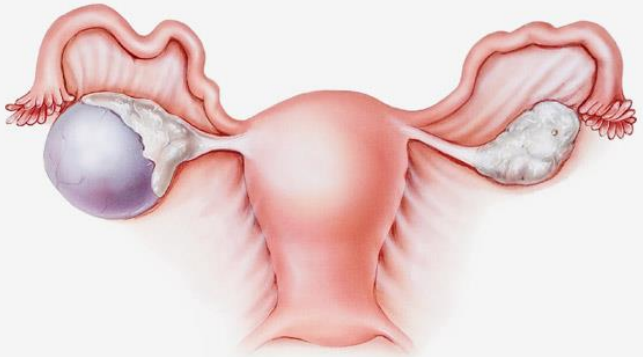
✓Vasopressin or Adrenaline

- Hemostatic agent instead of bipolar
- Unilateral instead of bilateral cystectomy



preservation methods

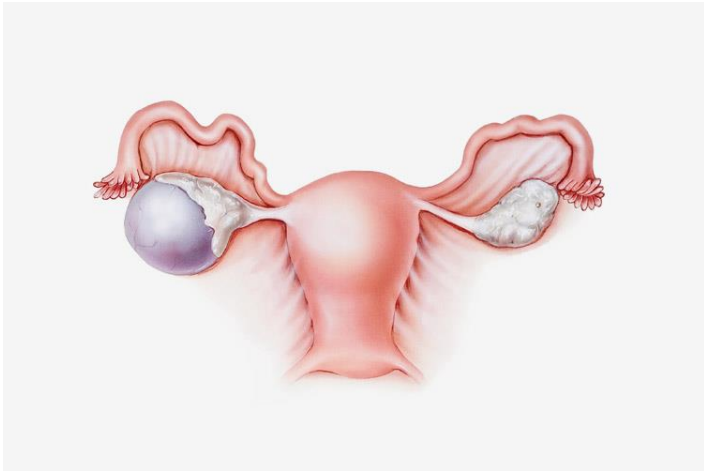
- Based on the risk of premature ovarian failure related to endometriosis, the offer of FP techniques to these patients has significantly increased, as well as the reported experiences in recent medical literature.
- embryo (1 article),
- oocyte (4 articles)
- ovarian tissue cryopreservation (3 articles)
- and tissue transplantation
- Although much knowledge can
- be translated from the onco-fertility discipline



Tubo-ovarian abscess

- The classic presentation of a tubo-ovarian abscess includes acute lower abdominal pain, fever, chills, vaginal discharge, and an adnexal mass.
- Pelvic imaging typically shows a complex multilocular mass that obliterates normal adnexal architecture.
- Timely diagnosis and management are required to diagnose or avoid sepsis and to prevent further damage

to the ovary and fallopian tubes.

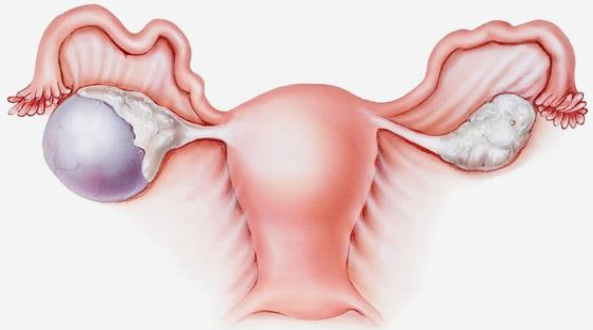


Paratubal or paraovarian cyst

- A paratubal or paraovarian cyst arises from the broad ligament in the area of the fallopian tube or ovary.
- The most common findings in this area are simple cysts that originate from the remnants of paramesonephric (Müllerian) or mesonephric (Wolffian) ducts that are present during urogenital embryologic development.
- A simple, asymptomatic paratubal or paraovarian cyst can be managed expectantly without further follow-up.
- Surgical removal is indicated if torsion, cause

persistent pain or pressure symptoms,

or appear neoplastic.

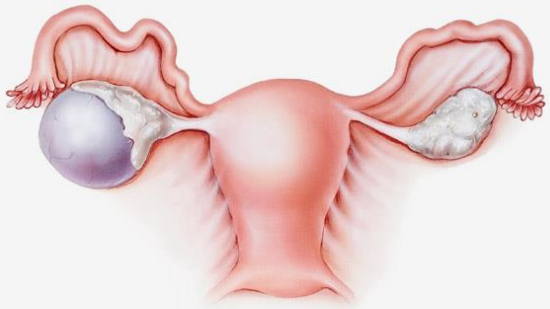


Hydrosalpinx

- A hydrosalpinx is an edematous fallopian tube, typically caused by an infection.
- A hydrosalpinx may be asymptomatic or may result in chronic pelvic pain or infertility
- Other etiologies of chronic pelvic pain should be excluded before salpingectomy is performed.
- An asymptomatic hydrosalpinx does not generally need to be removed or followed with imaging.
- The exception to this is patients

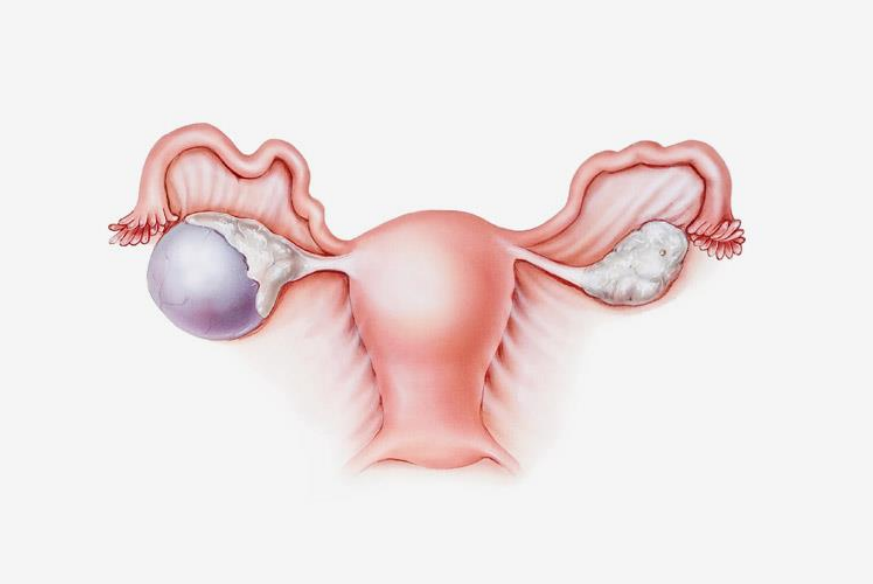
undergoing in vitro fertilization

- A hydrosalpinx is associated with infertility.

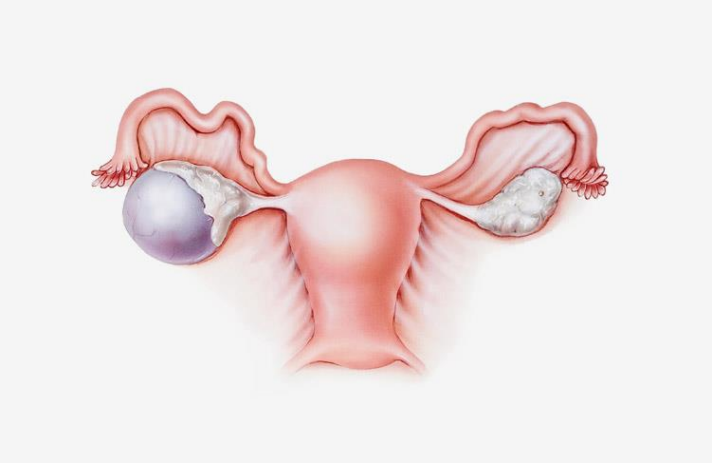


Broad ligament leiomyoma

- A broad ligament leiomyoma may be located proximal to the ovary and fallopian tube.
- These are usually diagnosed with pelvic ultrasound and are managed in the same manner as other leiomyomas.



Summery



- Preoperative assessment of women with ovarian masses

(history-Ph/exam-TVS or TRS- tumor marker-MRI)

- CA-125 is not necessary if ultrasonod suspicious a simple ovarian
- Laparoscopic management in emergency(stable hemodynamic) and non-emergency (benign in imaging) situations.
- Informed consent of removing an ovary, laparotomy, repeat surgery.
- Spillage of cyst contents should be avoided with tissue bag spatially in dermoid cyst (chemical peritonitis)
- Suturing, vasoconstrictors, hemostatic agent, unilateral and bipolar instead of ultrasonic hemostasis should be used to lower AMH decreased.
- Asymptomatic paratubal or paraovarian cyst and hydrosalpynx can be managed expectantly without further follow-up.

Thanks for your attention