

Pelvic Mass in Gynaecology



MODERATORS

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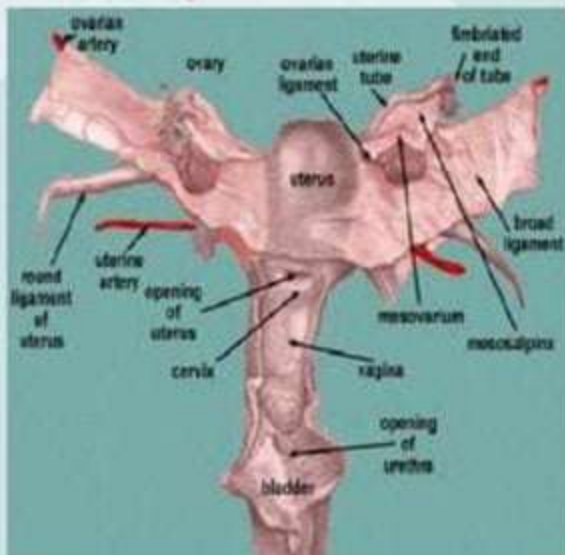
PANELISTS

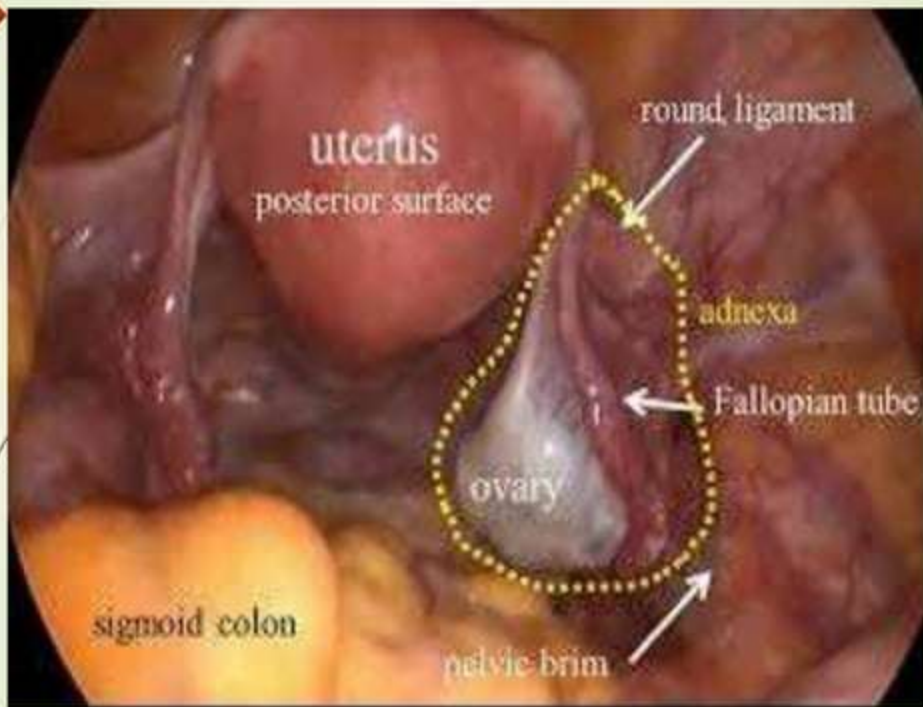
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Anatomy

• "Adnexa"

- Area next to the uterus containing ligaments, vessels, tubes, ovaries





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- What differential diagnosis comes to your mind when you hear ADNEXAL MASS?
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DIFFERENTIAL DIAGNOSIS OF ADNEXAL MASS

ORGAN	CYSTIC	SOLID
OVARY	Functional cyst, Neoplastic cyst, Benign, Malignant, Endometriosis	Neoplasm Benign Malignant
FALLOPIAN TUBES	Tubo-ovarian abscess Hydrosalpinx Paraovarian cyst	Tubo-ovarian abscess Ectopic pregnancy Neoplasm
UTERUS	Intrauterine pregnancy in a bicornuate uterus	Pedunculated or inteligementous myoma
BOWEL	Sigmoid or caecum distended with gas or feces	Diverticulitis, Ileitis, Appendicitis, Colonic cancer
MISCELLANEOUS	Distended bladder, Pelvic kidney, Urachal cyst	Abdominal wall hematoma or abscess, retroperitoneal

CASE 1

Mrs XYZ 45yr old P2L2 (FTND), with complaints of

- Heaviness in abdomen
- Irregular heavy menses
- Dysmenorrhea , since 2 – 3 months
- On Examination:
 - P/A – soft, non tender
 - P/S - cervix , vagina healthy
 - P/V – uterus bulky firm mobile, AV, soft to cystic mass 4x5 cm in right and posterior fornix separate from uterus. Left fornix free and non tender.
 - P/R – boggiess felt anteriorly, rectal mucosa and parametrium free.
- Tumour Marker - WNL

➤ Investigations:


- USG Pelvis: solid, hypoechoic, well-circumscribed right adnexal mass of size 3.6x4.6 cm





► What is your diagnosis?


-Open to all the Panelist.





▶ BROAD LIGAMENT FIBROID



- 
- ▶ **How will You differentiate between a True and False Broad Ligament Fibroid ?**
 - ▶ **What will be relation of the Ureter to this fibroid?**

True Broad Ligament

Originates from the muscle fibres normally found in the mesometrium (in the round ligament, ovario-uterine ligament, and the connective tissue around the uterine and ovarian vessels)

Ureter is medial to mass


No groove felt between mass and uterus


False Broad Ligament

Arises from the lateral wall of the uterine corpus or of the cervix, and bulges outward between the layers of the broad ligament.

Ureter is lateral to mass

Groove felt between mass and uterus

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- ▶ **What will be your approach in this case?**

 - ▶ **Is there any role of ureteric stenting?**
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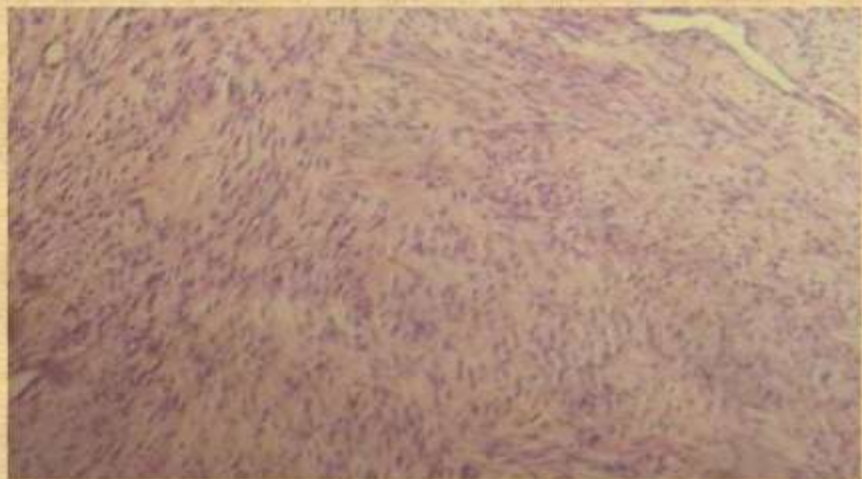


► **In this case ,**

- **the right ureter was safeguarded by dissection and enucleation could be carried out rather easily.**



HISTOPATHOLOGY REPORT



CASE 2

A 14 years old girl , unmarried c/o

- large abdominal mass
 - pain in abdomen
 - backache for 2-3 days.
- ⊙ Menstrual history : LMP : 27/12/11 . Menarche attained 5 days back. Patient had bleeding for 5 days , changing 2 pads per day .
 - ⊙ On Examination:
 - ⊙ Per Abdomen: 34 – 36 weeks size mass arising from pelvis, Cystic in consistency . Mobile from side to side. Smooth surface. Lower margin of the mass could not be made out. Upper border of mass was 1-2 cm below the intercostal margin. Mass was extending towards both the flanks.
 - ⊙ Per Rectal: Lower margin of the mass felt. No involvement of the rectal mucosa. Mass was free, mobile, non tender. No nodularity or induration felt.



Investigation:

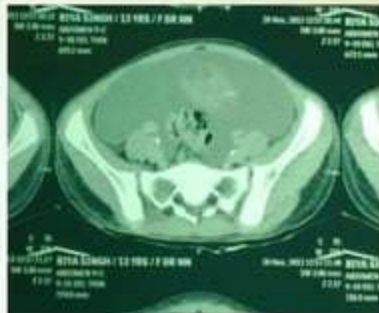
► Tumour markers-

- Ca125- 19.1 u/mL
- AFP- 1.06
- B-HCG-< 1.2
- CEA- 1.34

► USG Abdomen & Pelvis:

Uterus 6 x 3.1 x 2.7 cm. Normal endometrial echoes. ET 5 mm. B/L ovaries not visualized. A large complex cystic lesion seen extending from pelvis to epigastric region with multiple thick septae & multiple echoes within noted. No vascularity noted within. The mass displacing the bowels loops peripherally and uterus inferiorly. No calcification or mass lesion within.

Impression: Mucinous Cystadenoma of the ovary of benign etiology.





► **CT Scan Abdomen (Plain & Contrast):**

Large 18 x 15 x 11 cm sized, well defined , multiloculated , predominantly cystic , with multiple enhancing septae within noted in the pelvis, extending into the lower abdomen, abutting the anterior abdominal wall upto L1 – L2 vertebral level. No calcification or solid component noted within the mass. The lesion causing mass effect on the uterus displacing it postero – inferiorly , on the urinary bladder displacing it inferiorly and on the surrounding bowel loops displacing them peripherally. Mass effect on lower ureter with resultant mild proximal b/l hydroureter & hydronephrosis. The fat plane of this lesion with the surrounding structures appeared well maintained. Rt ovary seen separate from the lesion. Left ovary not appreciated on the CT .

Impression: LT ovarian cyst adenoma of benign etiology.

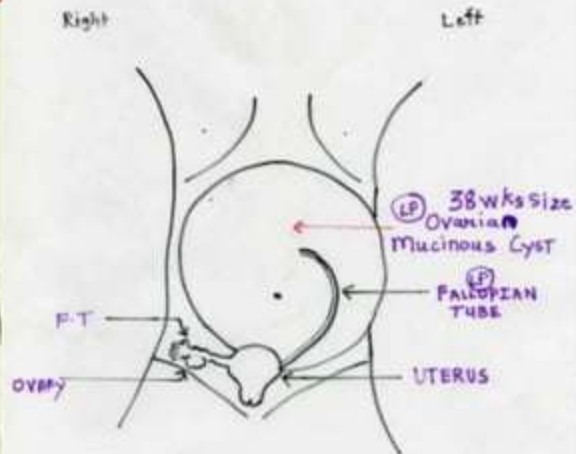


FIG 1: LP side 38wks MUCINOUS
CYSTADENOMA IN 14 YEARS OLD
GIRL

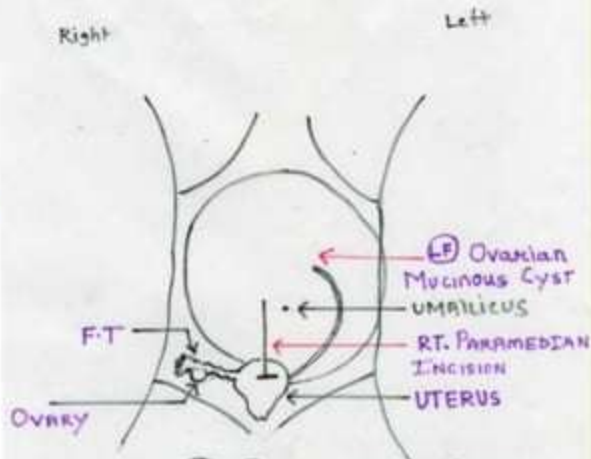


FIG 2: RT PARAMEDIAN INCISION



➤ Intraoperative finding:

- Patient underwent a successful ovariectomy with partial salpingectomy on the Left side with removal of a multi lobulated mucinous cyst adenoma.**
- About 300 cc of mucinous fluid was also aspirated from the cyst.**
- Post operative course of the patient in the ward was uneventful.**





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- ▶ **Role of Tumour Markers?**
 - ▶ **What is ROMA test and its importance?**
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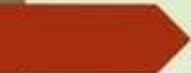
Table 2.3: Germ cell tumor markers


	AFP	Beta-hCG	LDH
1) Dysgerminoma	-	+/-	+
2) Yolk sac tumor	+	-	+
3) Immature teratoma	+/-	-	+/-
4) Mixed germ cell tumor	+/-	+/-	-
5) Choriocarcinoma	-	+	+/-
6) Embryonal carcinoma	-	+	+/-



▶ ROMA: RISK OF MALIGNANCY ALGORITHM

▶ Clinical Use:

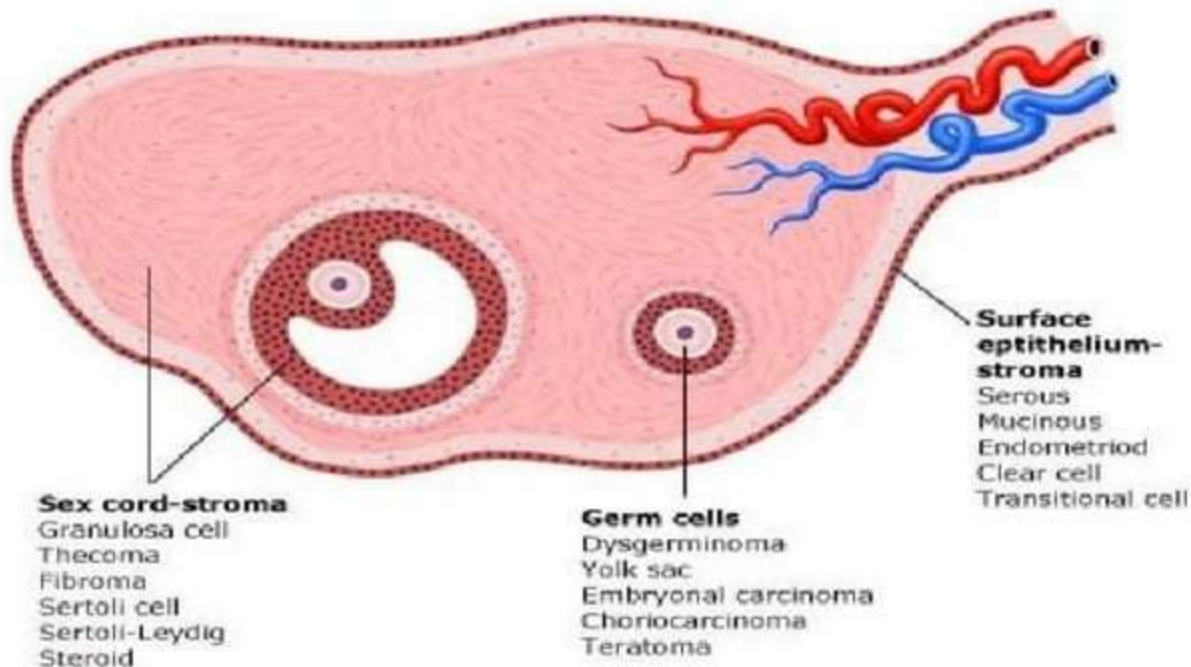
- ▶ Assess the likelihood that an ovarian mass is malignant in women whose pre-surgical assessment did not indicate malignancy.
- ▶ Assess the need to refer the patient to a gynecologic oncologist for treatment.
- ▶ used as a supplement to the standard presurgical evaluation to further assess the likelihood of malignancy before surgery when the presurgical evaluation does not indicate malignancy.
- ▶ The pre-surgical evaluation should include
 - ▶ menopausal status,
 - ▶ physical examination,
 - ▶ transvaginal ultrasonography,
 - ▶ CA 125 concentration, and
 - ▶ family history of breast or ovarian cancer in a first-degree relative.

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- ▶ It combines the results of human epididymis protein 4 (HE4) enzyme immunoassay (EIA), ARCHITECT CA 125 , and menopausal status to generate a single numerical score that correlates with the likelihood of malignancy being seen at surgery.
 - ▶ The ROMA test is intended for use in women who meet the following criteria:
 - ▶ Are over 18 years of age
 - ▶ Have an ovarian mass
 - ▶ Surgery is planned
 - ▶ Not yet referred to an oncologist
 - ▶ The ROMA test should not be used in women who have a rheumatoid factor concentration >250 IU/mL.

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- **Should we do Open Laparotomy knowing fully well before hand that's Malignant or Laparoscopic Treatment ?**
 - **Management of Germ Cell Tumour?**
 - **Role of Neoadjuvant Chemotherapy?**
 - **Debulking or Cytoreductive Surgery ?**
 - **Followup & Surveillance in Stage 1A?**
 - **Fertility preservation surgery?**

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- **Management of Germ Cell Tumour**
 - **Role of Neoadjuvant Chemotherapy**
 - **Debulking or Cytoreductive Surgery**
 - **Follow-up & Surveillance in Stage 1A**
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ORIGIN OF OVARIAN TUMORS





- ▶ **Ovarian Germ Cell Tumours**

- ▶ **Dysgerminoma**
- ▶ **Endodermal sinus tumour**
- ▶ **Embryonal Carcinoma**
- ▶ **Polyembryoma**
- ▶ **Choriocarcinoma**
- ▶ **Teratoma-Mature/Immature**
Immature – low grade/high grade

- ▶ **Surgical Principles**

- ▶ **Suspect diagnosis**
- ▶ **Pre-operative markers**
- ▶ **Conservative- fertility preserving surgery**
- ▶ **Staging-controversial- careful inspection of peritoneum, omentum, contralateral ovary and nodes with washings and biopsies of suspicious areas adequate**
- ▶ **Unilateral oophorectomy with debulking if advanced stage**

Surgery

- Importance of staging in early disease
- Fertility-sparing surgery often required
- Can preserve uterus for future IVF, even if BSO
- Debulking improves outcome

Chemotherapy

■ BEP

- Bleomycin 20 U/m² weekly x 9
- Etoposide 100 mg/m² days 1-5 q 3 weeks x 3
- Cisplatin 20 mg/m² days 1-5 q 3 weeks x 3

■ VAC

- Vincristine 105 mg/m² weekly x 12
- Act D 0.5 mg days 1-5 q 4 weeks
- Cytosin 5-7 mg/kg days 1-5 q 4 weeks

■ VBP

- Vinblastine 12 mg/m² q 3 weeks x 4
- Bleomycin 20 U/m² weeks x 7, 8 on week 10
- Cisplatin 20 mg/m² days 1-5 q 3 weeks x 3

Germ Cell Tumour	Surgery	Chemotherapy
Dysgerminoma	USO staging if possible	BEP x 3 cycles if stage II-IV
Endodermal sinus tumor	Debulk preserve fertility	BEP x 3-4 cycles
Embryonal carcinoma	Debulk preserve fertility	BEP x 3-4 cycles
Malignant teratoma	Debulk preserve fertility	BEP or VAC x 3-4 cycles
Granulosa cell tumor	USO if young o/w TAH/BSO	BEP x 3-4 cycles GnRH agonists for advanced ds
Sertoli-leydig cell	USO if young o/w TAH/BSO	BEP or VAC x 3-4 cycles

Surveillance:

Markers HCG AFP LDH CA125

- 1st year every 2 weeks x 6 m and then monthly x 6
- 2nd year monthly
- 3rd year every 3/12
- 4th year every 4/12
- Subsequent years 6/12

Clinical exam

- 1st year monthly
- 2nd year every 2 months
- 3rd year every 3 months
- 4th year every 4 months
- 5-10 every 6 months

Imaging

- Chest X ray alternate visits
- Abdo-pelvic US every 3rd visit for first 2 years followed by annual abdo-pelvic ultrasound subsequent years

Modalities of fertility preservation strategies

Strategy	Modality
Preserving uterus and at least one ovary	Conservative cancer surgery
Reducing radiation exposure to ovary	Ovarian transposition
Reducing chemotherapy related damage	Ovarian Suppression
Cryopreservation	Freezing of embryos, oocytes and ovarian tissue

Table 17.3: Studies on conservative surgery for cancer ovary with fertility outcomes

Author	Population	Oncology outcome	Fertility outcome
Tangir J 2003	Malignant germ cell tumor. 64 cases.	—	Conception possible in 29 of 38 who attempted. Live births 38
Morice P 2005	Epithelial ovarian cancer Multicenter retrospective French study of 34 cases. Stage IA=30, Stage IC= 3, Stage IIA= 1	Recurrence rate: 31%	Conception rate: 26%
Swanton A 2007	Borderline ovarian tumor. Systematic review of literature identified 2479 cases of which 923 underwent conservative surgery. Stage I or II = 95%, Stage III = 5%	Recurrence rate: 16% Mortality rate: 5.4% (5/923)	Conception rate: 48%

CASE 3

Mrs. ABC, 30/F, m/s 5 yrs came with the c/o

- infertility
- progressive cyclical dysmenorrhea since last 1 year.

Patient gives no h/o any menstrual irregularities.

- On examination:
- Per Abdomen: Soft, NO guarding/rigidity/distention/tenderness
- P/S: Cervix / vagina healthy
- P/V:
 - Uterus bulky, Anteverted, Firm , restricted mobility
 - Right fornix free.
 - E/o bogginess in left and posterior fornix measuring 5x5cm

USG – there is e/o left adnexal mass of 6x5 cm with thin septations with no vascularity.

CA-125 – 105 IU/ml


Rest tumour makers - WNL





➤ USG- Pelvis:

- Low level internal echoes.
- Thick walled Homogeneous "ground glass" appearance
- Multilocular „Cystic
- Show varying degrees of echogenicity in locules
- „Round Shape „Regular Margins



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- On diagnostic laparoscopy -
 - There is e/o dense adhesions in the pelvic cavity.
 - uterus – restricted mobility.
 - POD obliterated.
 - Left tubo ovarian chocolate cysts seen with dense adhesions to the bowel.

- 
- ▶ **What is your diagnosis?**
 - ▶ **What are various management options and what would be your approach in this case?**
 - ▶ **Future fertility and their management options ?**
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CASE 4

- ▶ 28 yr P2 L2 (FTND) with CuT 380A in situ with c/o
 - ▶ Dull lower abdominal pain with White foul smelling pv discharge
 - ▶ Low grade fever. On and off since 6 months
 - ▶ Dyspareunia since 10 days
- ▶ Menstrual history – menarche attained at 12 yrs. Past cycles were regular/mod flow/painless/4/30 days

On Examination:

G/E: GC – average Pallor mild Febrile 38^oCelcius

Pulse 100 b/min BP-90/60mm Hg

Per Abdomen-Soft, Tenderness in the left iliac fossa and hypogastrium, No guarding, rigidity, distention, No Organomegaly.

Pelvic examination

Per speculum –

cervix shows sign of cervical erosion circumferentially around the external os

White discharge seen in the vaginal wall

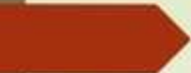

On Bimanual Examination

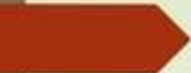
- ▶ Uterus anteverted, normal size
- ▶ Left Fornix full, 4x4 cm cystic mass palpable
- ▶ Bilateral fornices tender
- ▶ Cervical motion tenderness +
- ▶ Mobility restricted



Investigations –

- Hb – 10.5 gm/dl/ TLC -20,000/cm, DLC-neutrophils 70, lymphocytes-26,eosinophil-4
- urine routine – pus cells 10 – 15/hpf
- High vaginal swab sent
- CA-125 – 42.5IU/ml.
- CXR – NAD
- USG abdomen and pelvis –
 - Uterus normal size , ET – 3mm
 - Right fallopian tubes and ovary normal.
 - Left fallopian tube enlarged , distended filled with low echogenic material.
 - Tubal wall can be delineated.
 - There is e/o 4 by 3 cm multiloculated cystic left adnexal mass
 - Rest USG - NAD

- 
- ▶ **What is your diagnosis?**
 - ▶ **What are the causes Of PID?**
 - ▶ **Approach towards such patients?**
 - ▶ **Indication for In patient care?**
 - ▶ **Is there any role of Laparoscopy in this case?**
 - ▶ **Treatment of sexual partner and their follow up?**
- 



Pelvic Inflammatory Disease (PID) comprises a **spectrum of inflammatory disorders** of the upper female genital tract, including any combination of endometritis, salpingitis, tubo-ovarian abscess, and pelvic peritonitis

- Sexually transmitted organisms, especially **N. gonorrhoea** and **C. trachomatis**, are implicated in many cases
- However, **microorganisms that comprise the vaginal flora** (e.g., anaerobes, *G. vaginalis*, *Haemophilus influenzae*, enteric Gram-negative rods, and *Streptococcus agalactiae*) also have been associated with PID
- In addition, **M. [Mycoplasma] hominis** and **U. [Ureaplasma] urealyticum** might be etiological agents of PID

Risk Factors

ACCEPTED	PROPOSED
1. Menstruating teens	1. Low socio-economic status
2. Multiple sex partners	2. Early age of sexual activity
3. Prior H/O PID	3. Urban living
4. Sexually Transmitted Infection	4. High frequency of coitus
5. Non-use of barrier contraceptive	5. Use of IUCD
	6. Cigarette smoking
	7. Substance abuse
	8. Douching

Acute PID : CDC Diagnosis Criteria

Minimum criteria

- Lower abdominal tenderness
- Adnexal tenderness
- Cervical motion tenderness

Additional criteria^a

- Oral temperature >38.3°C (101°F)
- Abnormal cervical or vaginal discharge
- Elevated erythrocyte sedimentation rate
- Elevated C-reactive protein
- Laboratory documentation of cervical infection with *Neisseria gonorrhoeae* or *Chlamydia trachomatis*

Definitive criteria^b

- Histopathologic evidence of endometritis on endometrial biopsy
- Tube-ovarian abscess on sonography or other radiologic tests
- Laparoscopic abnormalities consistent with PID

^a More elaborate diagnostic evaluation is often needed because incorrect diagnosis and management might cause unnecessary morbidity. These additional criteria may be used to increase the specificity of the diagnosis of the minimum criteria listed previously.

^b The definitive criteria for diagnosing PID are warranted in selected cases.

Acute PID : Hospital admission

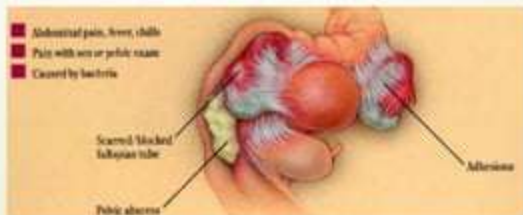
1. Judgment of the provider

2. Patient meeting following criteria

- a. Surgical emergencies (e.g., appendicitis) cannot be excluded
- b. Pt. is pregnant
- c. Pt. does not respond clinically to oral antimicrobial therapy
- d. Pt. is unable to follow or tolerate an outpatient oral regimen
- e. Pt. has severe illness, nausea and vomiting, or high fever
- f. Pt. has a tubo-ovarian abscess

Management:

- relief of acute symptoms
- eradication of current infection
- minimalization of the risk of long term consequences
- antibiotics
- surgery (remove or drain a tubo-ovarian abscess)



Acute PID : Management (Antibiotics for specific pathogen)

Organism	Antibiotics
N. gonorrhoea	Cephalosporins, Quinolones
Chlamydia	Doxycycline, Erythromycin & Quinolones (Not to cephalosporins)
Anaerobic organisms	Flagyl, Clindamycin & in some cases to Doxycycline
β -Haemolytic streptococci. & E. coli	Penicillin derivatives, Tetracyclines, and Cephalosporins., E. Coli is most often treated with the penicillins or gentamicin

Inpatient treatment

■ Regimen A:


Administer cefoxitin 2 g IV q6h or cefotetan 2 g IV q12h plus doxycycline 100 mg PO/IV q12h..

Continue this regimen for 24 hours after the patient remains clinically improved, and then start doxycycline 100 mg PO bid for a total of 14 days.

Administer doxycycline PO when possible because of pain associated with infusion. Bioavailability is similar with PO and IV administrations. If tubo-ovarian abscess is present, use clindamycin or metronidazole with doxycycline for more effective anaerobic coverage.

■ Regimen B:

Administer clindamycin 900 mg IV q8h plus gentamicin 2 mg/kg loading dose IV followed by a maintenance dose of 1.5 mg/kg q8h. IV therapy may be discontinued 24 hours after the patient improves clinically, and PO therapy of 100 mg bid of doxycycline should be continued for a total of 14 days. If tubo-ovarian abscess is present, use clindamycin or metronidazole with doxycycline for more effective anaerobic coverage.



Outpatient treatment

- **Regimen A:**

Administer ceftriaxone 250 mg IM once as a single dose plus doxycycline 100 mg PO bid for 14 days, with or without metronidazole 500 mg PO bid for 14 days. Metronidazole can be added if there is evidence or suspicion for vaginitis or gynecologic instrumentation in the past 2-3 weeks.

- **Regimen B:**

Administer cefoxitin 2 g IM once as a single dose and probenecid 1 g PO concurrently in a single dose or other single dose parenteral third-generation cephalosporin (ceftizoxime or cefotaxime) plus doxycycline 100 mg PO bid for 14 days with or without metronidazole 500 mg PO bid for 14 days. Metronidazole can be added if there is evidence or suspicion of vaginitis or gynecological instrumentation in the past 2-3 weeks.

Management : Surgery in Acute PID

Indications

1. Ruptured abscess
2. Failed response to medical treatment
3. Uncertain diagnosis

Type of surgeries

1. Colpotomy
2. Percutaneous drainage/aspiration
3. Exploratory laparotomy

Extend of surgeries

1. Conservation - if fertility desired
2. U/L or B/L Sal.-oophorectomy with/without hysterectomy
3. Drainage of abscess at laparotomy

PID : Special situation

IUD users

Considerations

- The risk for PID associated with IUD use is primarily confined to the first 3 weeks after insertion and is uncommon thereafter
- Practitioners might encounter PID in IUD users because it's a popular method of contraception

Management

- Evidence is insufficient to recommend the removal of IUDs
However
- Caution should be exercised if the IUD remains in place, and close clinical follow-up is mandatory. If improvement is not seen within 72 hrs of starting treatment then removal of IUCD is considered
- No data have been collected regarding treatment outcomes by type of IUD (e.g., copper or levonorgestrel)

Thank
you

