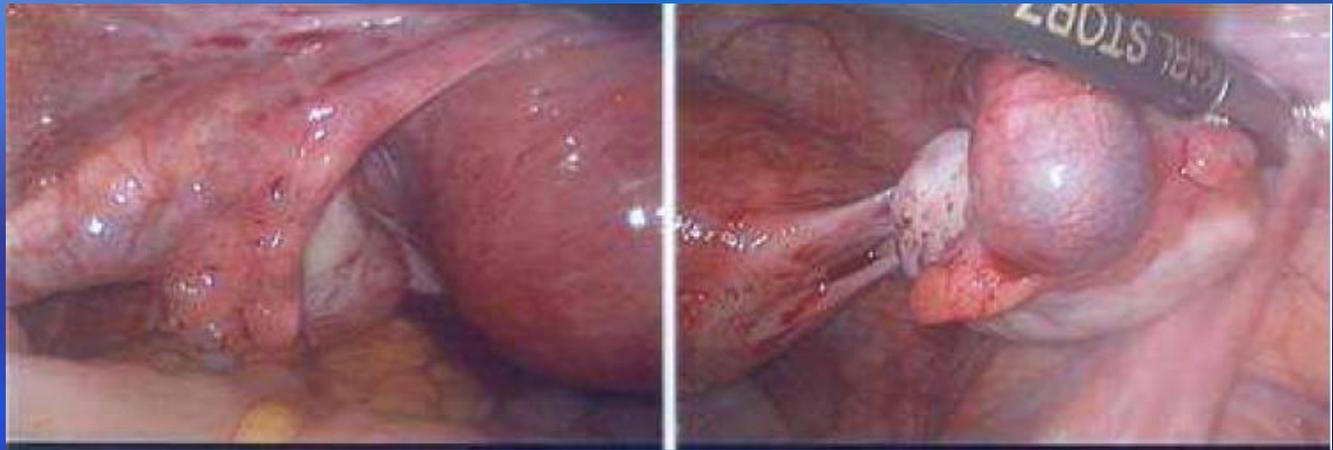


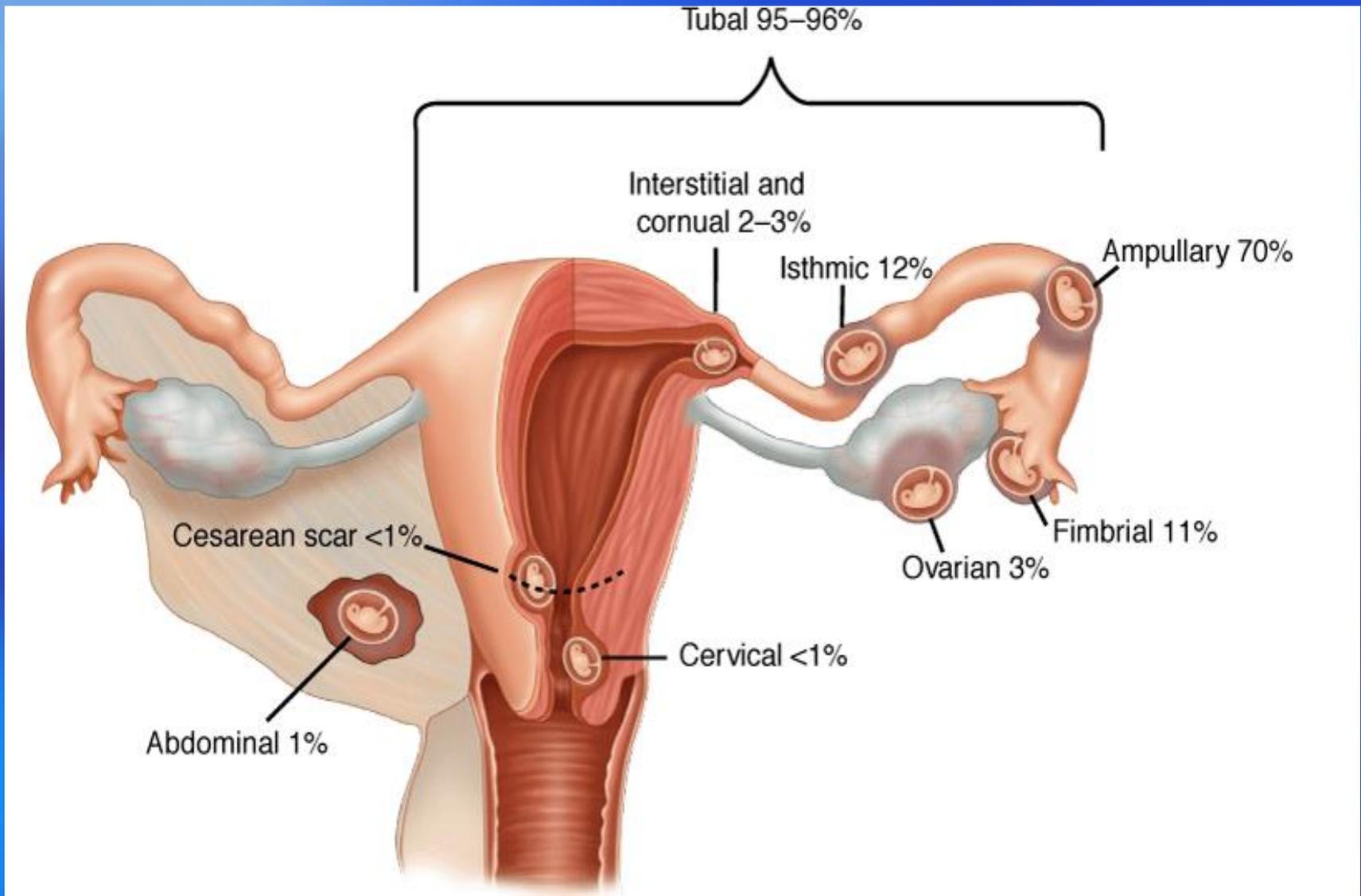
23歲女性主訴7天前有陰道出血之情形，量如月經來第4天之量，近2日常感覺右下腹疼痛，今日則因疼痛加劇而就醫。超音波掃描發現右邊子宮附屬物有腫塊，大小約3.5x3.8公分，尿液懷孕試驗呈現陽性反應。由於右下腹痛加劇，因此接受腹腔鏡檢查，腹腔鏡檢查發現有下圖之情形，依據圖示此患者最適合之診斷：

106(一)



- A. 卵巢腫瘤合併扭轉 (ovarian tumor with torsion)
- B. 輸卵管外孕 (tubal pregnancy)
- C. 急性盲腸炎 (appendicitis)
- D. 輸尿管結石 (ureteral stone)

# Common sites of ectopic pregnancy



# Risk factors for ectopic pregnancy

**Table 10-1. Some Reported Risk Factors for Ectopic Pregnancy**

<b>Risk Factor</b>	<b>Relative Risk</b>
Previous ectopic pregnancy	3-13
Tubal corrective surgery	4
Tubal sterilization	9
Intrauterine device	1-4.2
Documented tubal pathology	3.8-21
Infertility	2.5-3
Assisted reproductive technology	2-8
Previous genital infection	2-4
<i>Chlamydia</i>	2
Salpingitis	1.5-6.2
Smoking	1.7-4
Prior abortion	0.6-3
Multiple sexual partners	1.6-3.5
Prior cesarean delivery	1-2.1

# hCG level in early pregnancy

Days from LMP*	hCG Range** for Singleton Pregnancy	hCG Range for Multiple Pregnancy
28	9.4—120	9.5 - 120
33	300—600	200—1,800
36	1,200—1,800	2,400—36,000
40	2,400—4,800	8,700—108,000
45	12,000—60,000	72,000—180,000
70	96,000—144,000	348,000—480,000

\*LMP is the date of the start of the last menstrual period.

\*\*hCG is measured in mIU/mL

- Doubling time: 48 h, Half-life: 24 h
- Detectable 1 wk after ovulation, highest at 8-10 wks
- **1500** →TVS; **2000** →TAS sac visible
- If no intrauterine pregnancy noted → Suspect ectopic

# Symptoms and Signs

- Pelvic and abdominal pain, 95 %
- Gastrointestinal symptoms, 80 %
- Abnormal bleeding, 60 to 80 %
- Dizziness or light-headedness, 58 %
- Pelvic tenderness in rupture case, 75%
- Vital signs change in rupture case
- Adnexa mass

# Differential Diagnosis

- Salpingitis
- Threatened abortion
- Appendicitis
- Ovarian torsion
- Early pregnancy
- Heterotopic pregnancy
- Ruptured ovarian cyst
- Bleeding corpus luteum

# Diagnosis

- Rapid urine pregnancy test: 20 mIU/mL
- Serum hCG: Rise < 66% in 48 hours
- Ultrasound: ectopic gestational sac
- Culdocentesis: free-flowing and non-clotting blood (intraperitoneal bleeding or hemoperitoneum)
- Laparoscopy

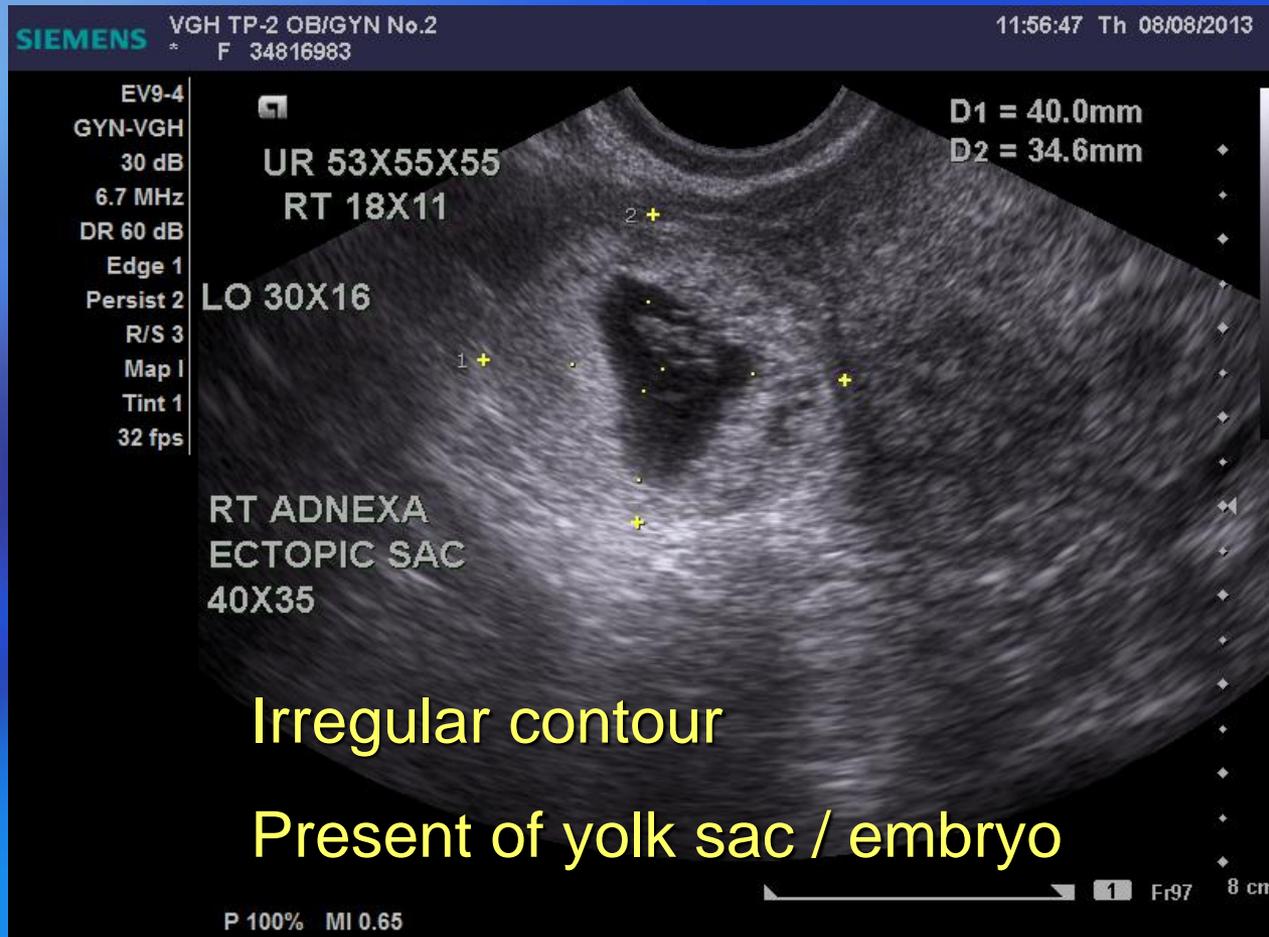
# Intrauterine Pregnancy



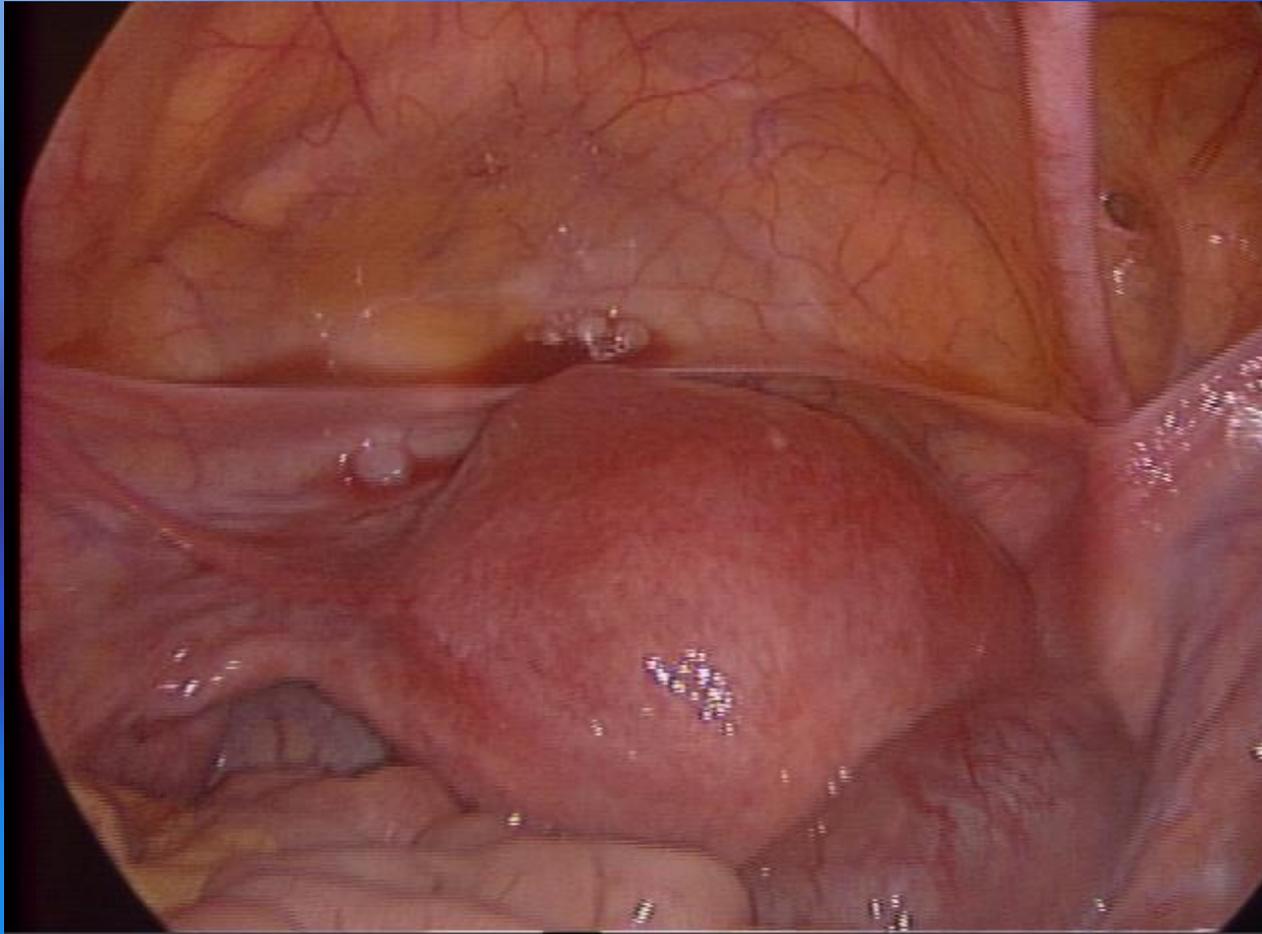
# No sac in uterus



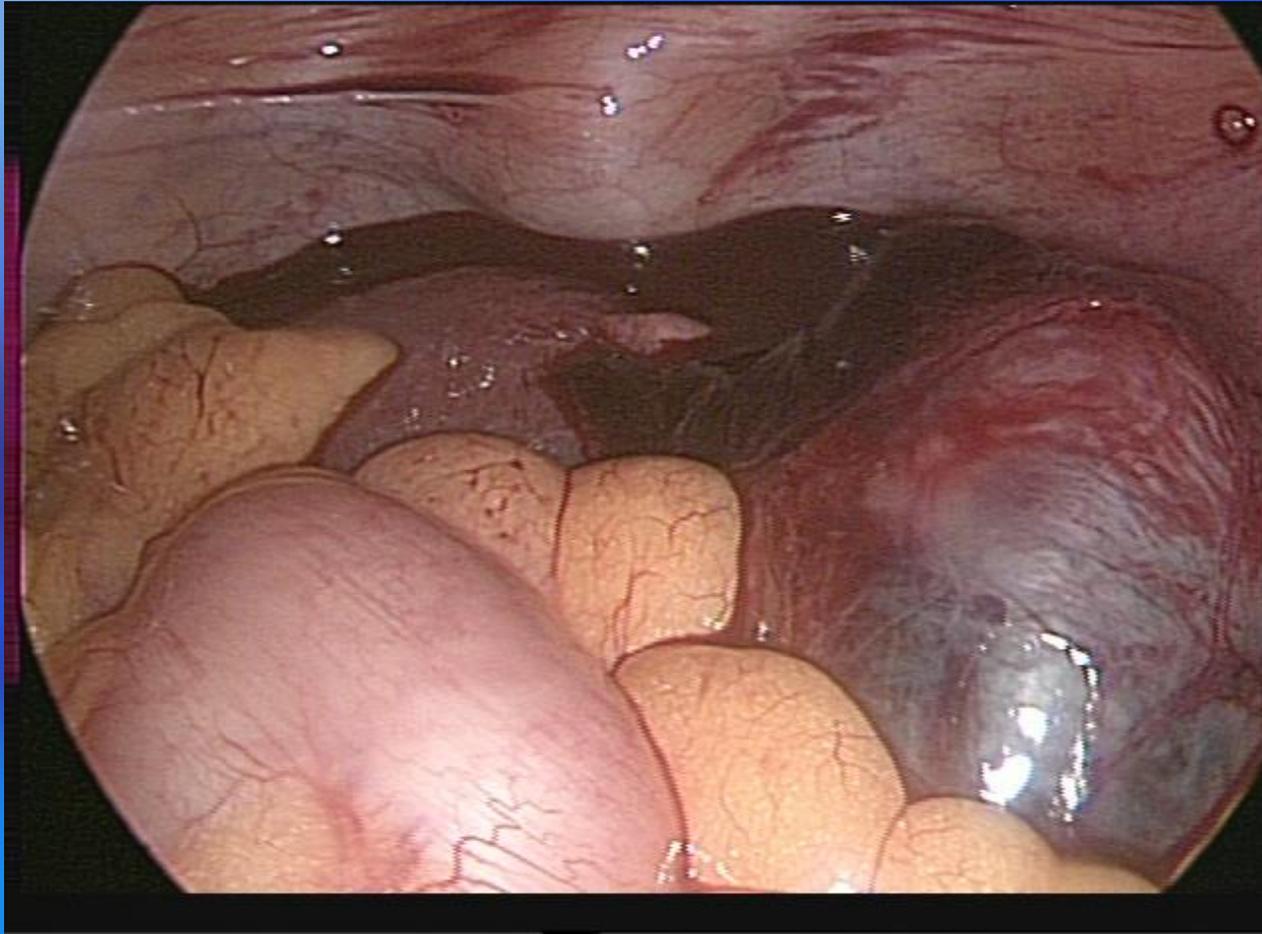
# Sac seen in adnexa



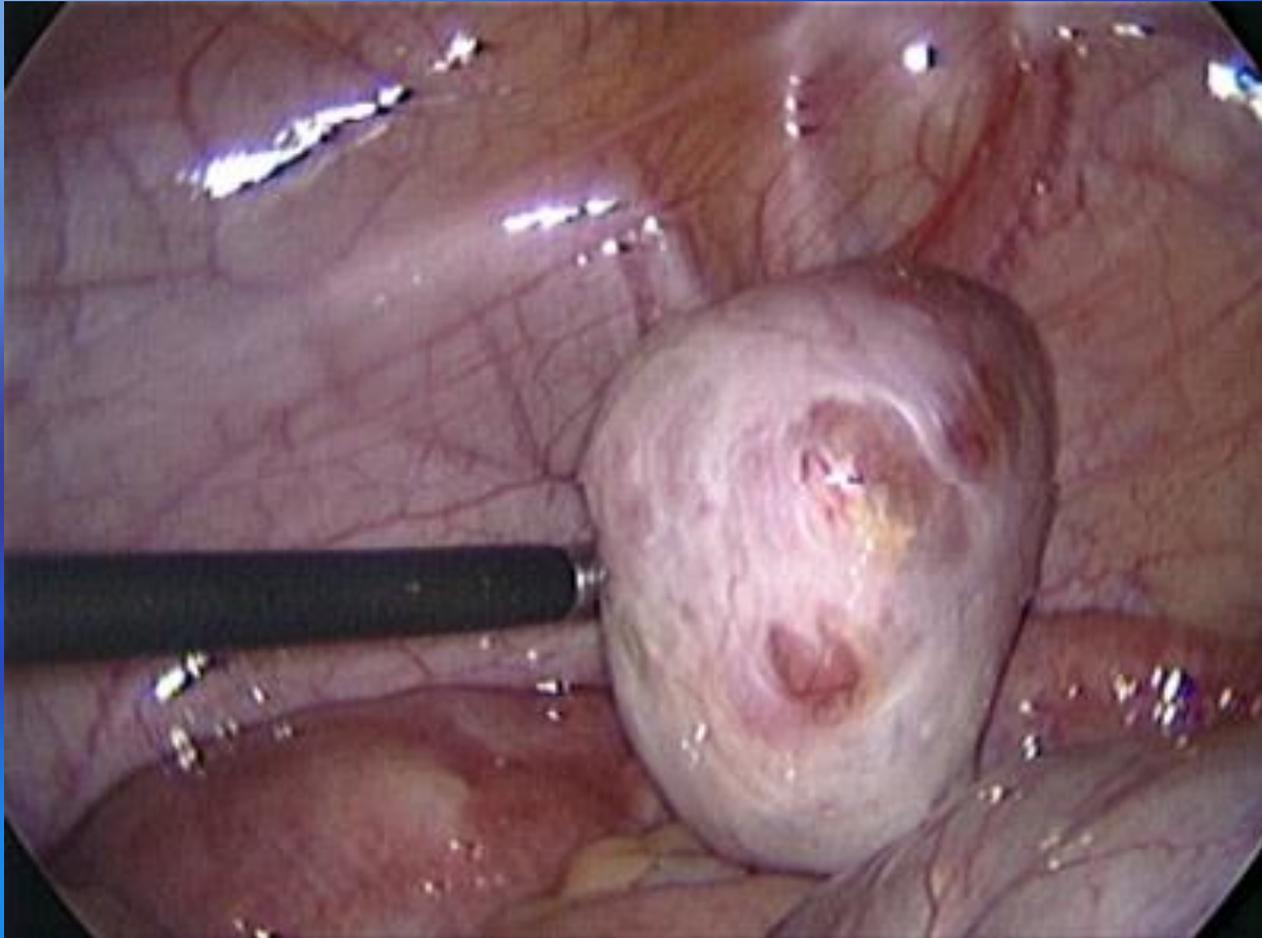
# Laparoscopic finding



# Ruptured sac



# Laparoscopic – Corpus luteum



# Treatment

- Surgical intervention
  - Salpingectomy
  - Salpingostomy
- Medical intervention
  - Methotrexate
- Expectant

# Medical Treatment

## ■ Criteria

- Hemodynamic stable
- Gestational sac < 3.5cm
- $\beta$ -hCG level < 15000 mIU/mL

## ■ Contraindication

- Hepatic, renal, hematology dysfunction
- Peptic ulcer disease
- FHB+, large GS (relative contraindication)

# Dosage and Follow up

	Single	Two	Multiple
Day	1	1,4	1,3,5,7
Dosage	50mg/m <sup>2</sup>	50mg/m <sup>2</sup>	1mg/kg
Leucovorin	-	-	0.1mg/kg (2,4,6,8)
Follow up	4,7	4,7	MTX day
Failure (<15% decrease): Repeat as original regimen			
Long term weekly $\beta$ -hCG until undetectable			

# Surgery option

- Salpingectomy
  - Subsequent fertility rate 70%
- Salpingostomy
  - Usually less than 2 cm in length
  - Located in the distal third of the fallopian tube
  - $\beta$ -hCG level  $> 6000$  mIU/mL are associated with a higher risk of implantation into the muscularis and thus with more tubal damage.

# Expectant as management

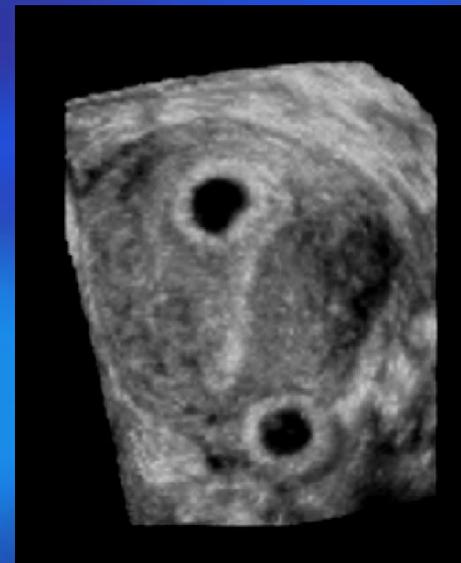
- In select cases only
  - Tubal ectopic pregnancies
  - Initial serum  $\beta$ -hCG level was  $<1000$  mIU/mL.
  - Decreasing serial  $\beta$ -hCG levels
  - Diameter of the ectopic mass not  $>3.5$  cm
  - No evidence of intra-abdominal bleeding or rupture by transvaginal sonography.

# Prognosis

- Conception rate post-ectopic: 70%  
No difference in unilateral salpingectomy
- Recurrent ectopic pregnancy risk:
  - After 1st ectopic: 10-15% risk
  - After 2nd ectopic: 32% risk

# Heterotopic Pregnancy

- One viable pregnancy implanted in the uterus and the other implanted elsewhere as an ectopic pregnancy .
- < 1 in 30,000 naturally occurring pregnancies.
- 1 in 100 couples who conceive through IVF
- Management as ectopic pregnancy



■ 子宮外孕輸卵管妊娠，胎囊大於**3.5** 公分且有胎心跳，病人狀況良好，這時最適合的治療方式為何？ **96**

- A. 追蹤檢測血中hCG 濃度
- B. 內科療法給予Methotrexate
- C. 外科腹腔鏡手術
- D. 剖腹切除外孕側的輸卵管及卵巢

■ 有關正常懷孕與子宮外孕敘述，下列何者錯誤？ 100(二)

- A. 正常懷孕時， $\beta$ -hCG濃度大於1500 mIU/mL時，陰道超音波可看到子宮內的妊娠囊
- B. 正常早期懷孕， $\beta$ -hCG每天會上升一倍，如果上升速率較慢，必須懷疑子宮外孕可能性
- C. 子宮外孕最常見到的位置是兩側輸卵管
- D. 子宮外孕若早期發現，胚胎尚未破掉且還沒有心跳時，可以考慮化學藥物治療，給 Methotrexate 50 mg/m<sup>2</sup> IM，但需追蹤打藥後第四天及第七天 $\beta$ -hCG的濃度

- 一位28歲女性已有一個半月月經沒來，近兩日常感覺右下腹疼痛，今日則因疼痛加劇而就醫，經陰道指診發現子宮有觸壓疼痛的情形，同時子宮右邊處亦有觸壓疼痛的情形。尿液懷孕試驗呈現陽性反應，超音波掃描發現右邊卵巢（ROV）旁有囊狀腫塊，大小約 2.5×2.8公分（箭頭所指之處），此患者最適合之診斷為：103(二)

- A. 輸卵管外孕
- B. 卵巢腫瘤
- C. 輸尿管水腫
- D. 輸卵管卵巢膿瘍

