核心課程編號：F4

下腹痛

第六版

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109.02.13

婦產科下腹痛學習目標

PGY	UGY
知識 1.了解婦女下腹痛之常見原因 2.了解各腹痛原因之鑑別診斷及治療方式	知識 1.了解骨盆腔內解剖位置及神經支配 2.了解經痛的機轉 3.骨盆腔發炎 4.認識卵巢出血 5.認識子宮外孕
技能 1.能作理學檢查鑑別下腹痛之可能原因 2.能判讀各項相關檢驗及檢查結果 3.能夠給予初步的葯物治療或正確轉診	技能 1.能夠仔細詢問下腹痛之發生時間、起始點、疼痛型態、誘發因子、緩解因子等 2.了解確定診斷或排除診斷之檢查、檢驗 3.了解各種診斷之對應治療方式
態度 1.能以同理心進行診療 2.有耐心、解釋病情	態度 1.可以耐心探詢病史 2.可以使用開放式問題和病人溝通

三 軍 總 醫 院 一 般 醫 學 訓 練

In-Training Exam-女性下腹痛(F4)

日期：103 年 04 月 11 日 PGY 學員：_____ 指導老師：_____

出題：102 年 01 月 08 日 出題者：林政賢醫師 閱卷者：_____

參考資料: Novak Gynecology 15th edition, Section IV, Chapter 15

題目

吳小姐，28 歲，月經規則且最近一次月經為三週前，近日陰道分泌物增加有異味，今日下腹痛且有發燒，下腹壓痛及反彈痛，白血球增加。

1. 請寫出五項婦女下腹痛常見原因(10%)
2. 請寫出 4 項骨盆腔結構及其支配的神經 (20%)
3. 請描述經痛的機轉，與治療方式(請寫出三種)(20%)
4. 骨盆腔發炎的診斷標準？請寫出 Major criteria 三項，及六項 Minor criteria。(10%)治療的抗生素選擇請寫出兩種。(10%)
5. 子宮外孕的診斷 triad 為何？使用 HCG 診斷標準？施打 Methotrexate 失敗率高 risk factor？(請寫出三項)(20%)
6. 若吳小姐昨天跟先生有性行為，今天下腹疼痛，超音波發現 Cul-de-sac 約 50cc fluid，左邊卵巢約 4 公分 with heterogenous content，請問可能的診斷為何？(5%)生命徵象穩定，建議處理方式？(5%)

婦女急性下腹痛常見原因

- Abnormal pregnancy
- Leaking or ruptured ovarian cyst
- Torsion of Adnexa
- Acute Salpingo-oophoritis
- Tubovarian Abscess
- Uterian Leiomyomas
- Endometriosis
- GI tract
- Acute Diverticulitis
- Intestinal Obstruction
- Urinary tract disease

婦女急性下腹痛常見原因

Gynecologic	Gastrointestinal	Urologic
Ovarian cyst	Appendicitis	Cystitis
Acute pelvic inflammatory disease	Diverticulosis	Urolithiasis
Adnexal torsion		Pyelonephritis
Ectopic pregnancy		
Endometriosis		
Ruptured ovarian cyst		
Leiomyoma		
Endometritis		

Reference
NMS.chapter 26.Pelvic pain

婦女慢性下腹痛常見原因

Gynecologic	Gastrointestinal	Urologic	Musculoskeletal	Psychological
Endometriosis	Constipation	Urinary tract infection	Postural	Depression
Pelvic inflammatory disease/tubo-ovarian abscess	Irritable bowel	Kidney stones	Trigger points	Sexual abuse
Adhesive disease	Gastroenteritis	Interstitial cystitis	Joint pain	Substance abuse
Congenital anomalies	Lactose intolerance	Urethral syndrome	Inflammation	Eating disorder
Ovarian masses	Inflammatory bowel disease		Spinal injury	
Chronic ectopic pregnancy	Appendicitis			
Dysmenorrhea	Hernia			
Leiomyoma				
Endometritis				

Reference
NMS.chapter 26.Pelvic pain

下腹痛鑑別診斷之方式

- Threatened abortion (用B-hCG, Hct↓可以rule out)
- Ectopic pregnancy (用B-hCG, Hct↓可以rule out)
- Adnexal torsion (TVS)
- Ruptured ovarian cyst (TVS)
- Appendicitis # (CT scan)
- Diverticulitis (CT scan, free air in abdomen)

骨盆腔解剖位置及神經支配

	Site	別名	內含物	備註
Board ligament	子宮附近片狀		其實就是前後 peritoneum	
Round ligament	子宮到大陰唇	**Hunter's ligament** **Ligamentum teres**	**Sampson's artery** 在其內	TAH 要打斷此 ligament
Cardinal ligament (主韌帶)	子宮下方(uterine cercix vagina)的兩邊，往 pelvic wall 拉	Transverse ligament Mackenrodt's ligment	裡有 **uterine artery** 通過 #：Uterocele broke 之 ligment	**最重要支持子宮的 ligament**，靠 vaginal-rectal exam 檢查#
Infundibular pelvic ligament	輸卵管往上吊	Suspensory ligament	Contain **ovarian artery**	Salpingo oophorectomy 時要打斷
Ovarian ligament	子宮到卵巢	Proper ligament		ATH+BSO 切
Vesicouterine ligament	子宮到膀胱			支持子宮重要的 ligament
Uterosacral ligament:	子宮到 sacrum		Uterocele broke 之 ligment	在 cervix 與 cardinal ligament 相連
Vesicouterine pouch	子宮與膀胱間			
Rectouterine pouch	Uterus 和 rectum 間	**Cul-de-sac of Douglas**		

子宮外孕

- implantation of the fetus in the site other than the uterine cavity
- **Symptoms**:
  amenorrhea for 6 to 8 weeks
  irregular bleeding or spotting due to low progesterone
- **Signs**:
  abdominal tenderness in lower quadrants
  tenderness on motion of cervix
  low grade fever
  low hematocrit

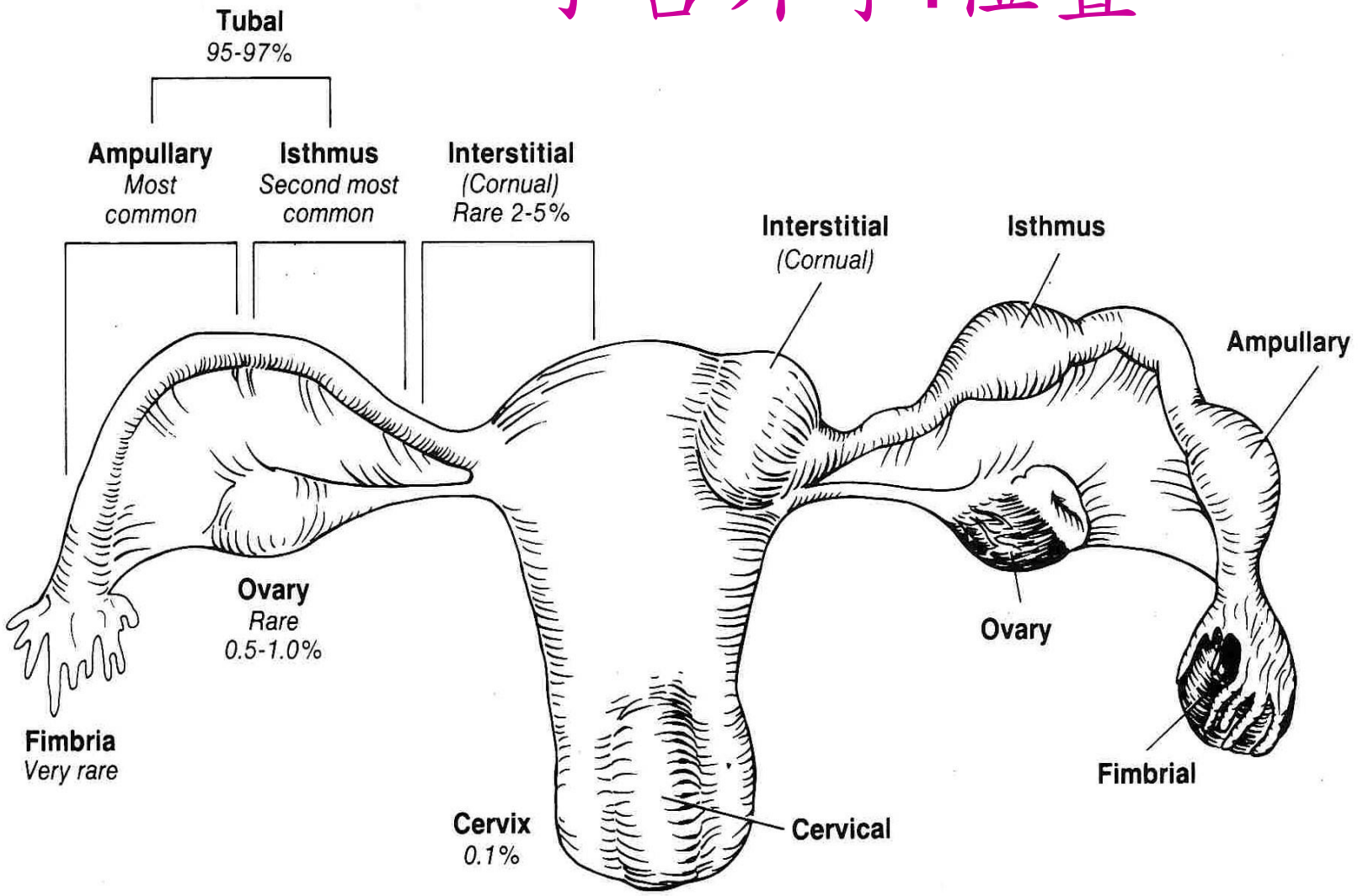
子宫外孕

- Signs and symptoms
- The classic clinical triad of ectopicpregnancy is as follows:
  - Abdominal pain
  - Amenorrhea
  - Vaginal bleeding
- Unfortunately, only about 50% of patients present with all 3 symptoms.

子宮外孕:危險因子

- Prior abdominal surgery
- Sterilization: sterilization reversal
- Previous laparoscopically proven PID
- Previous tubal pregnancy
- Current IUD use
- Previous tubal surgery for infertility
- Hormone alteration: clomiphene citrate. Gonadotropin ovulation.
- Salpingitis isthmica nodosa: tubal epithelium extends into the myosalpinx and forms a true diverticulum.
- Endometriosis or leiomyomas
- Diethylstibestrol
- Smoking: tubal motility, ciliary activity alteration

子宫外孕:位置


Tubal
95-97%
Ampullary
Most common
Isthmus
Second most common
Interstitial
(Cornual)
Rare 2-5%
Interstitial
(Cornual)
Isthmus
Ampullary
Ovary
Rare
0.5-1.0%
Ovary
Fimbria
Very rare
Fimbrial
Cervix
0.1%
Cervical

子宮外孕:病史詢問

- History
- The classic symptom triad of ectopic pregnancy : pain, amenorrhea and vaginal bleeding
- PE:

Vital sign

Examination of abdomen and pelvic

Bowel sounds are decreased

Rebound tenderness

Cervical motion tenderness

子宮外孕診斷: (1)實驗數據

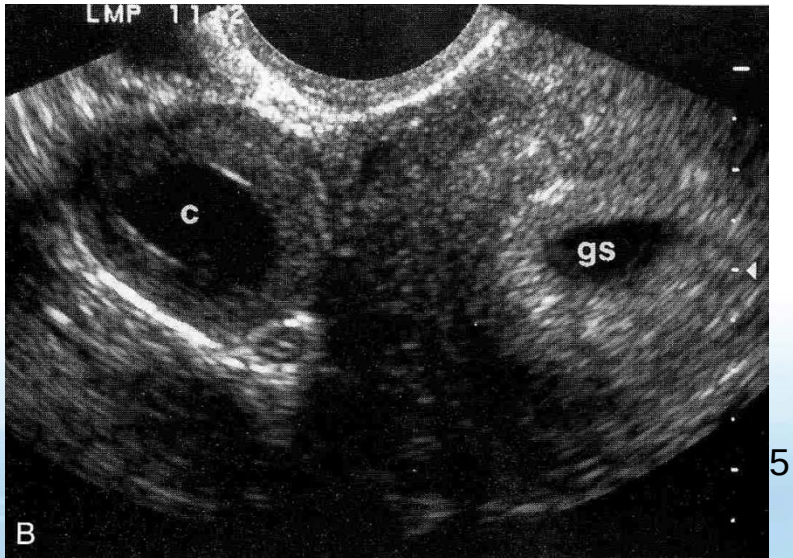
- hCG levels are higher than 6000 to 10000 mIU/mL at 6 weeks of gestation.
- hCG level doubling times: 48 hrs
- The hCG doubling time can differentiate an ectopic pregnancy from an intrauterine pregnancy– a 66% rise in the hCG level over 48 hrs.
- Serum progesterone:

  Less than 5ng/mL : abnormal pregnancy.

  Intrauterine pregnancy: >25ng/mL
- Estradiol , relaxin, prorenin and active renin level: Ectopic < normal
- Serum creatine kinase: ectopic > normal

子宮外孕診斷: (2)超音波

- TAS (Trans-abdominal sonography):
  5 weeks of gestation (Gestational sac 1 cm)
  6 weeks: fetal heart beat
  beta- HCG: 6000mIU/mL.
- TVS (Trans-vaginal sonography):
  4 weeks of gestation (0.3-0.4 cm of yolk sac)
  5 weeks : fetal heart beat
  beta-HCG: 1000-2000mIU/mL



子宮外孕診斷: (3)子宮內膜刮除術

- Pregnancy has been confirmed to be nonviable and the location of the pregnancy can’t be determined by ultrasonography.
- Decidual tissue doesn’t float.
- Chorionic villi are usually identified by their characteristic lacy frond appearance.

子宮外孕診斷: (4)腹腔鏡

- Laparoscopy: the gold standard for diagnosis of ectopic pregnancy.
- Missed in 3% to 4% of patients who have very small ectopic gestations.
- False-positive results occur when tubal dilation or discoloration.

子宮外孕手術

- Salpingectomy or salpingotomy was no difference in pregnancy rates.
- Salpingectomy to decrease their subsequent chance of a recurrent ectopic pregnancy.
- Linear salpingostomy is as effective as segmental resection with primary reanastomosis.

手術方法比較

- Laparoscopy
  advantage:
  Less blood loss.
  Shorter hospital stay
  Less narcotic use.
  Less adhesion than laparotomy.

- Laparotomy
  *Cornual or interstitial
  *Large blood clots or intrabdominal blood can't be evacuated in a timely manner.
  *Pelvic adhesive disease

子宮外孕:藥物治療

- Methotrexate (MTX)
- IM(intramuscular injection)
- Contraindication:
  - Gestational sac>3.5cm
  - HCG>5000mIU/Ml
  - Embryonic cardiac activity(FHB:+)
  - Immunodeficiency, renal disease, liver disease, blood disorder, peptic ulcer disease and active pulmonary

Reference:NMS, ectopic pregnancy

子宮外孕:藥物治療

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Reference:NMS, ectopic pregnancy

子宮外孕:藥物治療

TABLE 30–1 Methotrexate Treatment in Ectopic Pregnancy

Treatment Regimen	Single Dose	Two Dose	Multidose
Methotrexate	50 mg/m^2 Day 1	50 mg/m^2 Days 1 and 4	1 mg/kg Day 1 (may be 3, 5, and 7)
Leucovorin	None	None	0.1 mg/kg alternating with methotrexate
hCG monitoring	Days 1, 4, and 7	Days 1, 4, and 7	Every other day, then weekly until hCG has decreased by 15%
Repeat dose	Day 7 if hCG did not decline 15% during Days 4 through 7	Day 7 if hCG did not decline 15% during Days 4 through 7	Administer until hCG declines 15% or up to four doses
Surveillance hCG values	Weekly until level is undetectable	Weekly until level is undetectable	Weekly until level is undetectable

hCG, human chorionic gonadotropin.

Reference:NMS, ectopic pregnancy

卵巢扭轉

- 86-95% associated adenexal mass with 6-10cm
- Right ovarian torsion more common than left(protection form sigmoid colon)
- Color Doppler ultrasound is a helperful diagnostic laparoscopy

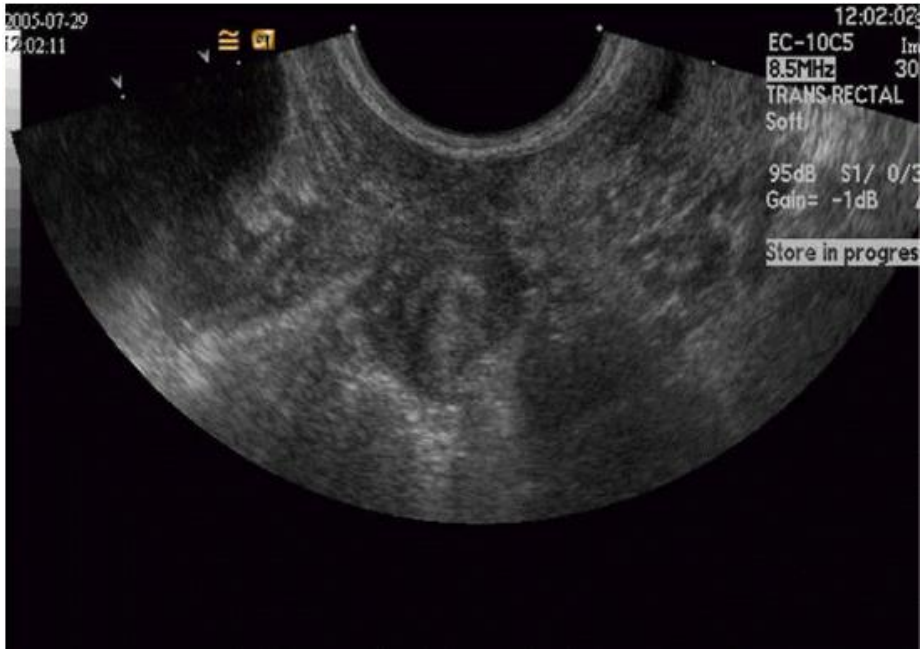
Reference:NMS

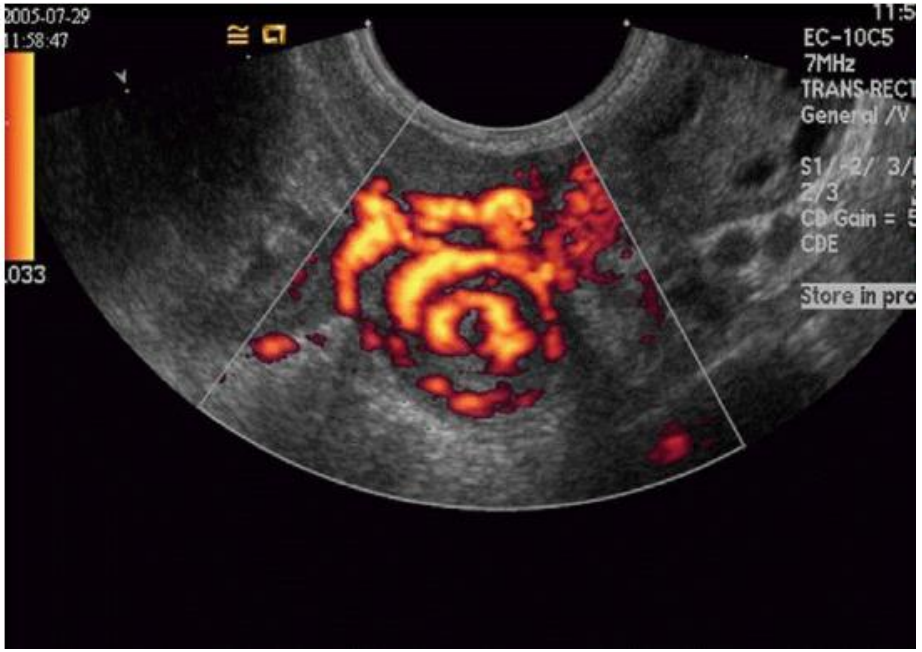
卵巢扭轉

- Torsion is largely a clinical diagnosis
- Diagnosis confirmed at surgery :40% correct preoperation diagnosis
- Color Doppler ultrasound is a helperful diagnostic laparoscopy
  - Whirlpool sign
- MRI/CT

Reference:NMS Pelvic pain
J Reprod Med 2000;45;831

Whirlpool sign





A 16-year-old female with acute onset pelvic pain.

Gray-scale (A) and power Doppler (B) sonograms show the swirling of the ovarian vascular pedicle, the "whirlpool sign," in a case of ovarian torsion (Courtesy of Dr. Eun Ju Lee).

子宮內懷孕併急性腹痛

- Threatened abortion:

  Vaginal bleeding before 20 weeks of gestation.

  30% to 40% of all pregnancies.

  Light bleeding, mild abdominal pain or cramping pain.

卵巢腫瘤

- Functional cysts (corpus luteum cyst):
  The most common ovarian cysts
  Rupture more readily than benign or malignant neoplasms.

- Symptoms:
  Onset of pain is sudden
  Increasing generalized abdominal pain
  Dizziness or syncope if a hemoperitoneum

卵巢腫瘤破裂併出血

- Rupture of endometrioma or teratoma (dermoid cyst): similar symptoms but no signs of hypovolemia because blood loss is minimal.
- Signs:
  Significant abdominal tenderness
  Rebound tenderness toneal irritation
  Decrease bowel sound
  mass is present if the cyst is leaking and not completely ruptured
  Fever and leukocytosis are rare

卵巢腫瘤分類

- Diagnosis: Pregnancy test, CBC, ultrasound
- Management: laparoscopy or laparotomy.
- Culdocentesis can determine the cause of peritonitis:
  Fresh blood (corpus luteum)
  Chocolate blood (endometrioma)
  Oily sebaceous fluid (benign tetratoma)
  Purulent fluid (PID or tuboovarian abscess)

骨盆腔發炎(PID)

- Gonococcal, Chlamydial.
- Symptoms:
  pain increases with movement
  fever
  purulent vaginal discharge
- Signs:
  cervical motion tenderness
  bilateral adnexal tenderness
  lack of a discrete mass
  leukocytosis, elevated ESR

骨盆腔發炎(criteria)

Minimal clinical criteria[a]	Cervical motion tenderness
	Uterine tenderness
	Adnexal tenderness
Additional criteria[b]	Oral temperature greater than 101°F (38.3°C)
	Abnormal cervical mucopurulent discharge or cervical friability
	Abundant white blood cells on microscopic evaluation of vaginal fluid
	Elevated erythrocyte sedimentation rate
	Elevated C-reactive protein
	Laboratory documentation of cervical infection with *Neisseria gonorrhoeae* or *Chlamydia trachomatis*
Specific criteria[c]	Endometrial biopsy with histopathologic evidence of endometritis
	Transvaginal ultrasound or magnetic resonance imaging showing thickened, fluid-filled tubes with or without free pelvic fluid or tubo-ovarian complex, or Doppler studies suggesting pelvic infection
	Laparoscopic findings consistent with PID

Notes: Reproduced from CDC. *2015 Sexually Transmitted Diseases Treatment Guidelines*. Atlanta, GA: Department of Health and Human Services; 2015.[3] [a]Initiate treatment if one or more of these criteria are met. [b]In addition to one or more minimal criteria, one or more of the additional criteria increases specificity of the diagnosis of PID. [c]One or more of these criteria provides the most specific diagnosis of PID.
Abbreviations: CDC, US Centers for Disease Control and Prevention; PID, pelvic inflammatory disease.

Reference: CDC 2015

骨盆腔發炎

TABLE 34–1 Laparoscopic Findings in Patients with False-Positive Clinical Diagnosis of Acute Pelvic Inflammatory Disease

Laparoscopic Finding	Number of Patients
Acute appendicitis	24
Endometriosis	16
Corpus luteum bleeding	12
Ectopic pregnancy	11
Pelvic adhesions only	7
Benign ovarian tumor	7
Chronic salpingitis	6
Miscellaneous	15
Total	98

Reprinted with permission from Jacobson LJ. Differential diagnosis of acute pelvic inflammatory disease. *Am J Obstet Gynecol* 1980;138:1007.

Reference:NMS chapter 34

骨盆腔發炎(treatment)

C **Oral treatment regimens** provide broad coverage for organisms frequently isolated from the genital tracts of women with PID. They are generally appropriate for women who present with milder cases of PID. Select **one** of the following three regimens:

1. **Ceftriaxone** 250 mg intramuscular single dose *or* **cefoxitin** 2 g intramuscular single dose with probenecid 1 g orally at the time of injection *or* **other third-generation cephalosporin**
2. *Plus* **doxycycline** 100 orally twice daily for 14 days, with or without **metronidazole** 500 mg twice daily for 14 days to treat chlamydia and BV
3. Fluoroquinolones are no longer recommended as a component of treatment of PID secondary to increased emergence of quinolone-resistant gonorrhea.

Reference:NMS chapter 34

骨盆腔發炎(treatment)

D **Parenteral regimens** are generally used in women with more severe PID. Randomized trials have demonstrated the efficacy of both oral and parenteral treatment regimens but have not compared oral and parenteral regimens objectively. Parenteral treatment is generally continued for at least 24 hours after significant clinical improvement has occurred. After this, conversion is made to an oral regimen, which is continued for an additional 10 to 14 days. Regimens are designed to cover both *N. gonorrhoeae* and *C. trachomatis* as well as other commonly isolated organisms.

1. **Regimen A.** Use one of the following:
   a. **Cefotetan** 2 g intravenously every 12 hours *or* **cefoxitin** 2 g intravenously every 6 hours.
   b. Plus **doxycycline** 100 mg orally or intravenously every 12 hours. Both the oral and intravenous routes of doxycycline provide similar bioavailability, and considerable pain is usually associated with intravenous administration of doxycycline. Once parenteral therapy is discontinued, oral doxycycline should be continued for a total of 10 to 14 days. Oral clindamycin or metronidazole may be added to doxycycline if an abscess is suspected.
2. **Regimen B.** Use one of the following:
   a. **Clindamycin** 900 mg intravenously every 8 hours *plus* **gentamicin** 2 mg/kg loading dose intravenously or intramuscularly followed by 1.5 mg/kg maintenance dose every 8 hours.
   b. When **conversion to oral therapy** takes place, doxycycline 100 mg twice daily or clindamycin 450 mg four times daily can be used. Clindamycin is usually the favored agent when a tuboovarian abscess is suspected and doxycycline is favored when chlamydia infection is suspected or confirmed on testing.

Reference:NMS chapter 34

急性輸卵管炎

- Diagnosis:

  lower abdominal pain with/without rebound
  cervical motion tenderness
  adnexal tenderness
  fever
  leukocytosis
  inflammatory mass
  culdocentesis revealed pus
  white cells or bacteria on Gram stain
  positive chlamydia antigen test of the cervix

急性輸卵管炎

- Management:
  treat in OPD with broad-spectrum oral antibiotics.

- Criteria for hospitalization:
  suspected tubo-ovarian abscess
  pregnancy
  present of IUD
  upper peritoneal signs
  failure respond to oral antibiotic within 48 hr

卵巢輸卵管炎

- A sequela of acute salpingitis, usually bilateral, but unilateral abscess formation is not rare

- Symptoms:
  pain and fever often present for longer than 1 wk before presentation to ER

- Signs: very firm, exquisitely tender, bilateral fixed masses

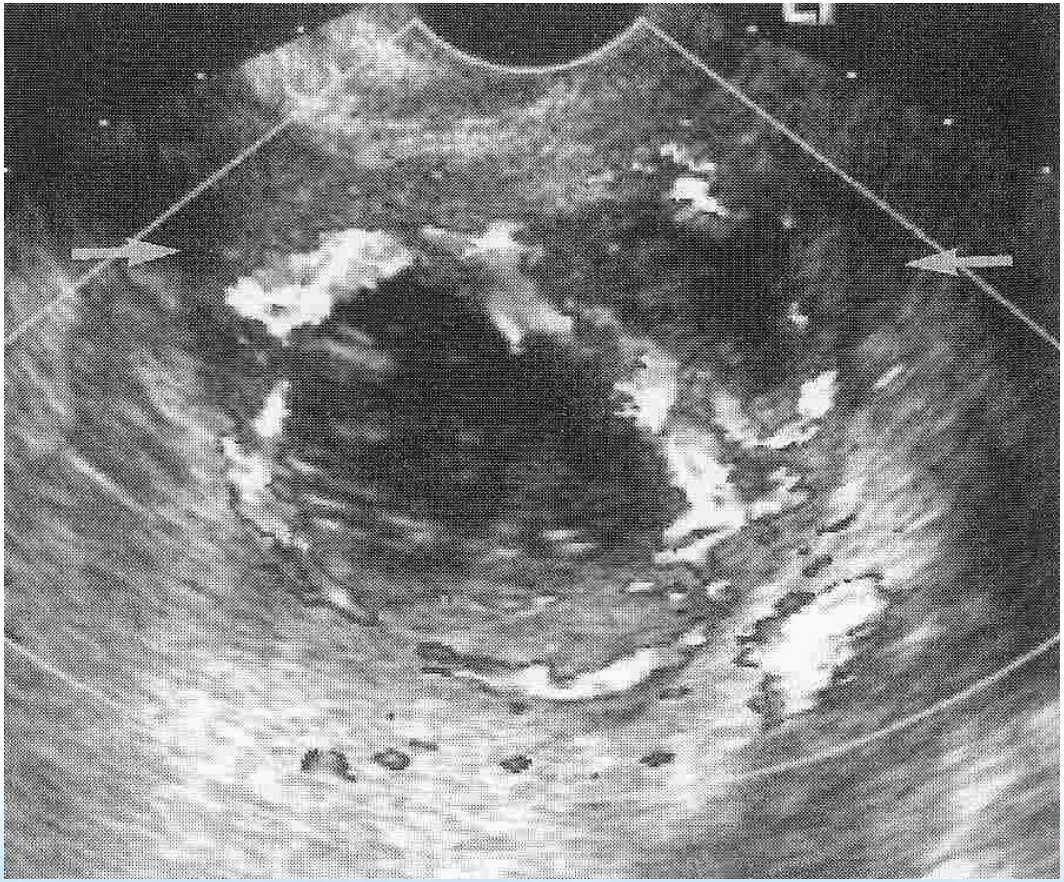
卵巢輸卵管炎

- Diagnosis: ultrasound

- Management:
  Unruptured tuboovarian abscesses maybe treated with IV antibiotics and sono-guide aspiration.

  Medical treatment failure and ruptured TOA must be treated with resection of infected tissue by exploratory laparotomy

Ovarian abscess



痛經

- Primary dysmenorrhea: menstrual pain without pelvic pathology. It usually appears within 1 to 2 years of menarche.

- Secondary dysmenorrhea: painful menses associated with underlying pathology. It develops after menarche and can occur with anovulatory cycles.

經痛機轉

- **Pathogenesis**：因late luteal phase時prostaglandin誘發lytic enzyme的活性，造成phopholipids的釋放而arachidonic acid及cyclooxygenase pathway的活化，造成endometrial prostaglandin F2-alpha↑而引起dysmenorrhea。

原發性經痛

- Cause: increased endometrial prostaglandin

- Symptoms:
  The pain usually begins a few hours before or just after the onset of a menstrual period, and may last up to 48 to 72 hours.
  It is similar to labor, with suprapubic cramping, colicky in nature, and is improved with abdominal massage, counterpressure, or movement of the body

原發性經痛

- Signs:
  Suprapubic region tenderness,
  Uterine tenderness
  Severe pain with movement of the cervix
  Palpation of the adnexal structures is absent

- Diagnosis: history and presence of normal pelvic exam.

- Treatment:
  Prostaglandin synthase inhibitors
  Oral contraceptives are agent of choice.
  (More than 90 % relief)

續發性經痛

- The pain often begins 1 to 2 weeks before menstrual flow and persists until a few days after the cessation of bleeding.

- Cause:
  endometriosis
  adenomyosis
  IUD

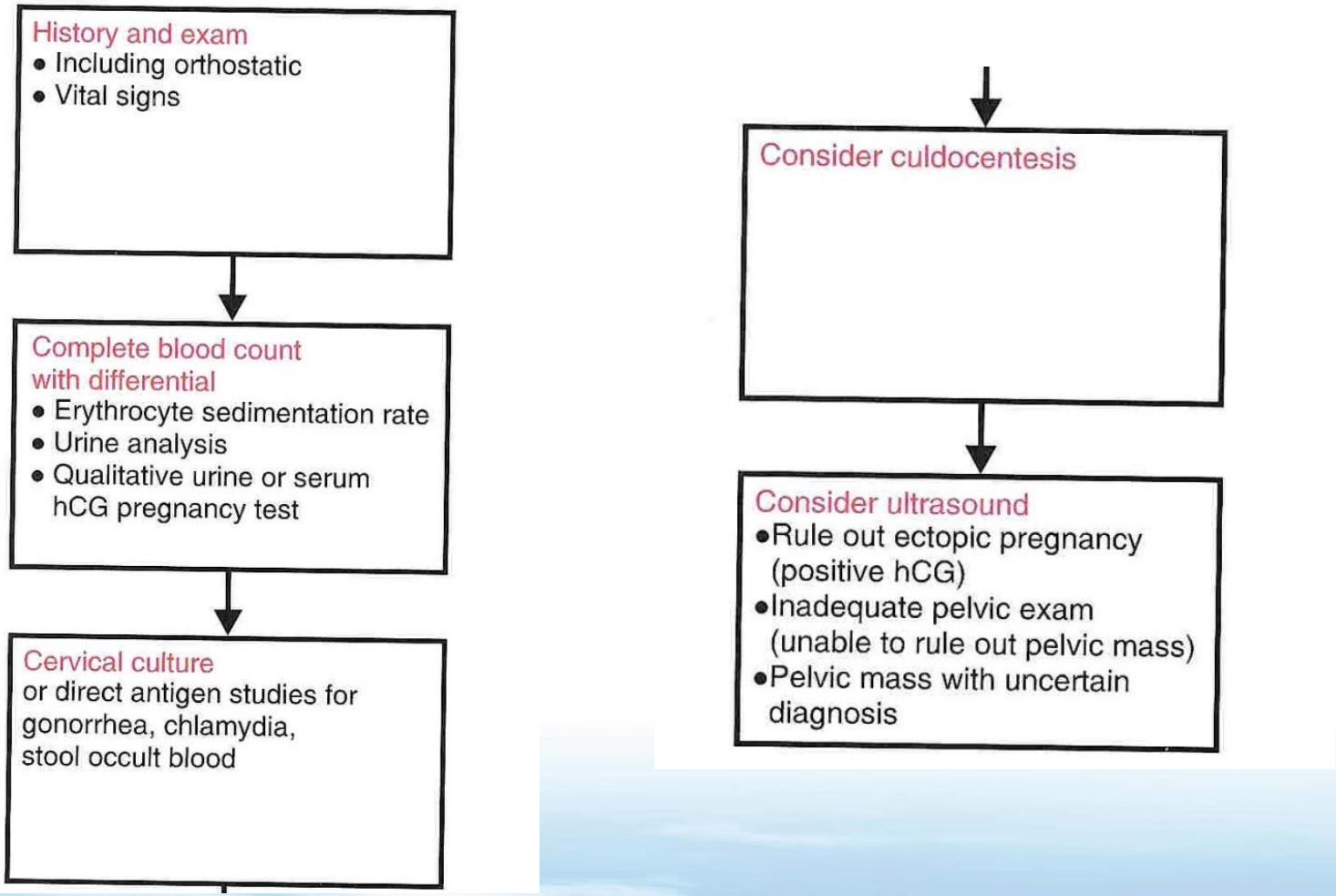
- Treatment: NSAID, oral contraceptive pills not as effective

結論

- Ectopic pregnancy is life-threatening. (HCG test is very important for reproductive women or girls)
- History
- PE
- Sonography

  (Trans-abdominal and trans-vaginal)

下腹痛病史詢問、檢驗診斷流程圖



Reference

- NATIONAL MEDICAL SERIES FOR INDEPENDENT STUDY