核心課程編號：F5

陰道分泌物增加

第六版
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陰道分泌物增加學習目標

PGY	UGY
知識 1.了解陰道發炎的治療方式 2.了解引發陰道分泌物之可能潛在疾病	知識 1.陰道分泌物的發生原因 2.了解各種陰道炎的原因及症狀
技能 1.可以放鴨嘴並正確作濕抹片(wet smean) 2.會以顯微鏡判讀濕抹片結果 3.正確選擇治療用藥	技能 1.能由顯微鏡下看濕抹片(wet smean)的結果 2.了解臨床症狀及檢查以建立診斷
態度 1.有耐心、細心進行整個檢查 2.可以因病人可聽懂之語言解釋病情	態度 1.可以耐心探詢病史 2.可以同理心解釋病情

正常陰道生理及分泌物

- The normal vaginal flora is mostly **aerobic**, the most common is hydrogen peroxide-producing **lactobacilli**.
- The PH level is **< 4.5**, which is maintained by the production of lactic acid.
- Normal vaginal secretions are floccular in consistency, white in color, and usually located in the **posterior fornix**.

陰道之正常菌叢

Table 3-1 Lower Reproductive Tract Bacterial Flora
Species or Group of Organism
Aerobes
Gram-positive
Lactobacillus spp
Diphtheroids
Staphylococcus aureus
Staphylococcus epidermidis
Group B Streptococcus
Enterococcus faecalis
Staphylococcus spp
Gram-negative
Escherichia coli
Klebsiella spp
Proteus spp
Enterobacter spp
Acinetobacter spp
Citrobacter spp
Pseudomonas spp

Anaerobes
Gram-positive cocci
Peptostreptococcus spp
Clostridium spp
Gram-positive bacilli
Lactobacillus spp
Propionibacterium spp
Eubacterium spp
Bifidobacterium spp
Gram-negative
Prevotella spp
Bacteroides spp
Fusobacterium spp
Veillonella spp
Yeast
Candida albicans and other spp

陰道感染之潛在疾病

- Bacterial vaginosis
- Trichomonas vaginitis
- Vulvovaginal candidiasis
- Pelvic inflammatory disease

細菌性陰道炎

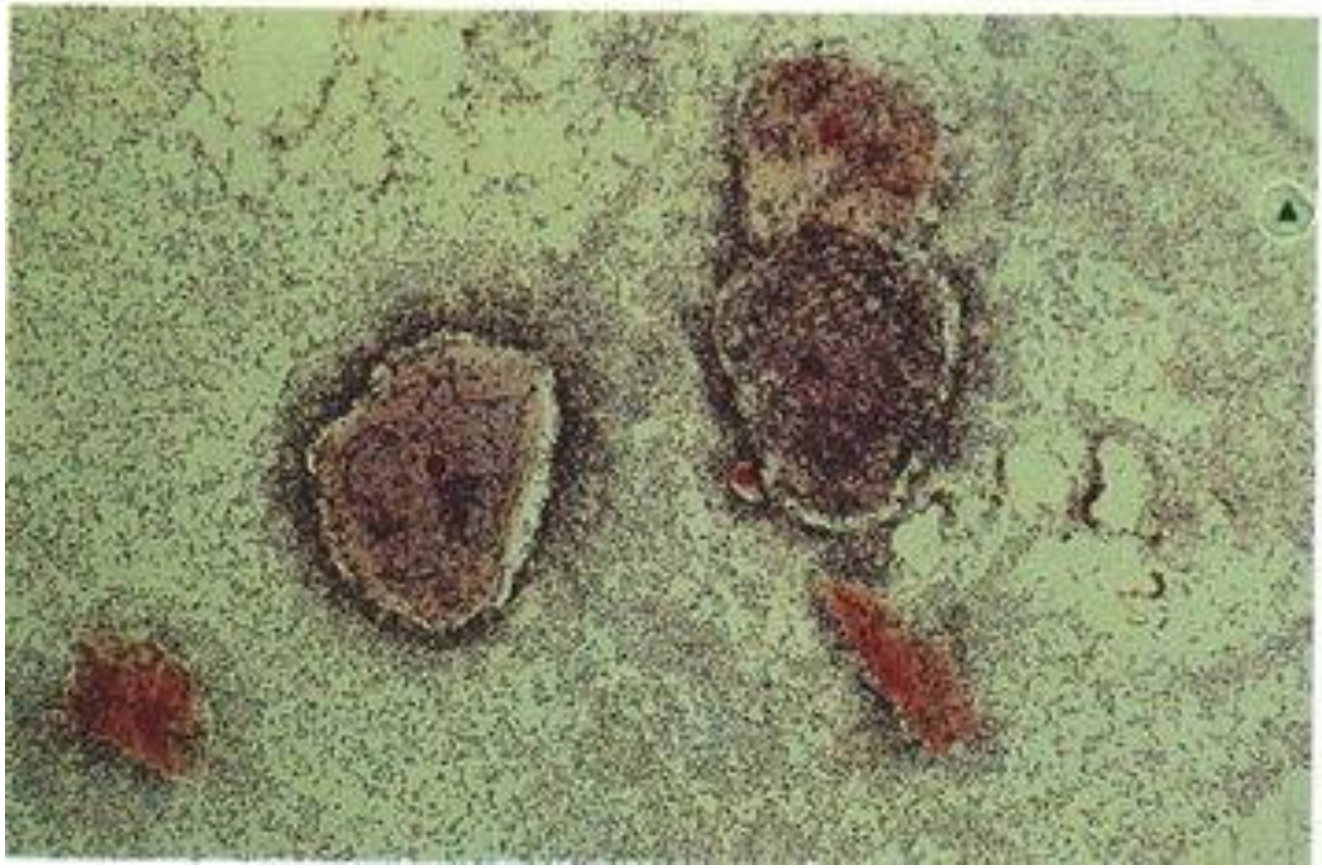
- Bacterial vaginosis (BV) has previously been referred to as **nonspecific vaginitis** or **Gardnella vaginitis**.
- Alteration of normal vaginal bacterial flora—lactobacilli and overgrowth of anaerobic bacteria– **Gardnella vaginalis** and **Mycoplasma hominis**.
- The most common form of vaginitis in United States.

細菌性陰道炎

- Diagnosis:
  - Fishy vaginal odor, which is particularly noticeable following coitus.
  - Vaginal secretions are gray and thinly coat the vaginal walls.
  - The PH > 4.5 (usually 4.7 to 5.7)
  - Microscopy– increased number of **clue cells,** and **leukocyte** are conspicuously **absent.**
  - KOH test (the whiff test) releases a fishy, aminelike odor.

細菌性陰道炎

細菌性陰道炎



Clue cell: an epithelial cell covered by diffuse types of micro-organism to produce a classic “salt and pepper” appearance

細菌性陰道炎之危險因子

Table 3-2 Bacterial Vaginosis Risk Factors
Oral sex
Douching
Black race
Cigarette smoking
Sex during menses
Intrauterine device
Early age of sexual intercourse
New or multiple sexual partners
Sexual activity with other women

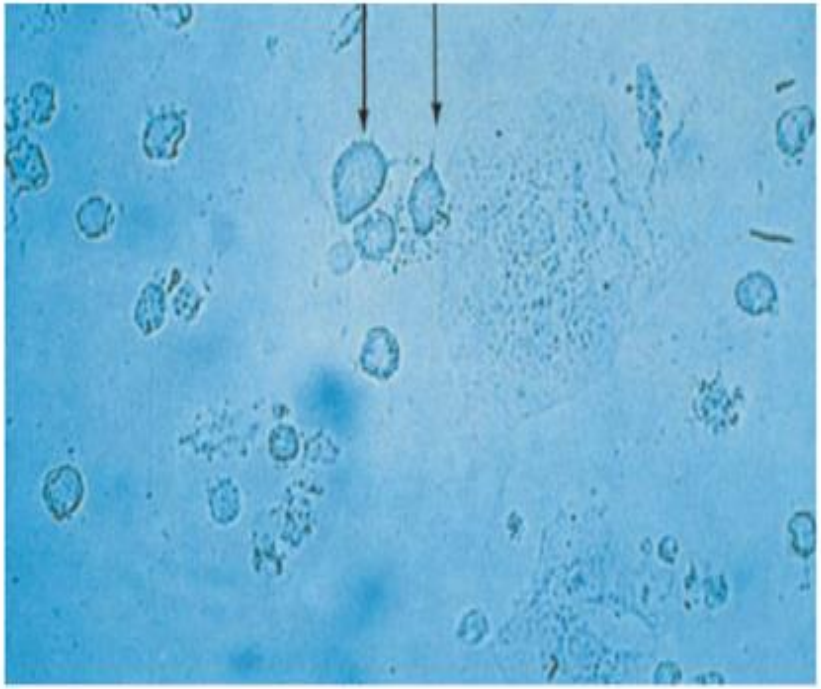
細菌性陰道炎-治療

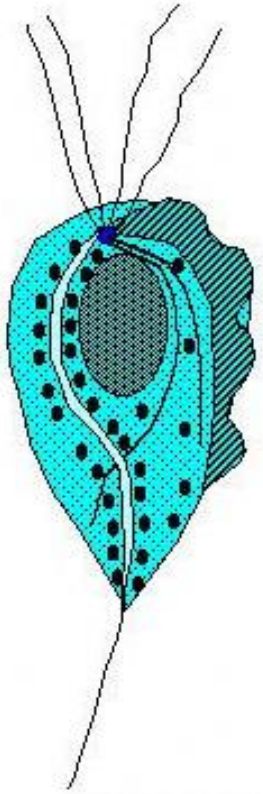
Table 3-3 Recommended Treatment of Bacterial Vaginosis	
Agent	**Dosage**
Metronidazole	500 mg orally twice daily for 7 days
Metronidazole gel 0.75%	5 g (1 full applicator) intravaginally once daily for 5 days
Clindamycin cream 2%	5 g (1 full applicator) intravaginally at bedtime for 5 days

滴蟲陰道炎

- Trichomonas vaginitis is caused by the sexually transmitted, flagellated parasite, **Trichomonas vaginalis**.
- The transmission rate is high: 70%
- It often accompanies bacterial vaginosis, as 60%.

陰道滴蟲





滴蟲陰道炎

Diagnosis:

- A profuse, purulent, malodorous vaginal discharge, may be accompanied by vulvar pruritus.
- A patchy vaginal erythema and colpitis macularis (**strawberry cervix**) may be observed
- The PH is usually higher than 5.0
- Microscopy– motile trichomonads and increased numbers of leukocytes.
- Clue cells may be present
- The whiff test may be positive

滴蟲陰道炎
(strawberry cervix)

滴蟲陰道炎-治療

Table 3-18 Recommended Treatment of Trichomoniasis
Primary therapy
Metronidazole single 1-g dose orally
or
Tinidazole single 2-g dose orally
Alternative regimen
Metronidazole 500 mg orally twice daily for 7 days

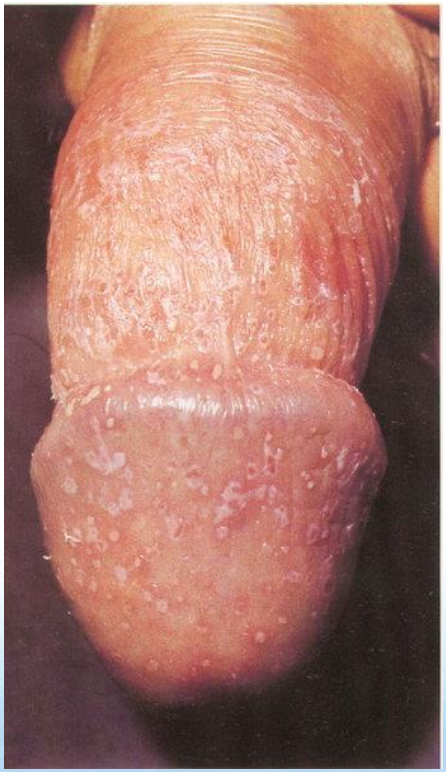
念珠菌陰道炎

- This infection is most commonly caused by ***Candida albicans***.
- Candidiasis is seen more commonly in warmer climates and in obese patients.
- Additionally, immunosuppression, diabetes mellitus, pregnancy, and recent broad-spectrum antibiotic use predispose women to clinical infection.
- About 75% of women experience at least one episode of vulvovaginal candidiasis during their lifetimes.

念珠菌會陰陰道炎

- Diagnosis:
  - Vulvar pruritus and cottage cheese like discharge
  - The discharge can vary from watery to homogeneously thick
  - The PH is usually normal (< 4.5)
  - Microscopy– fungal elements, either budding yeast forms or mycelia, appear as 80% of cases
  - The whiff test is negative

念珠菌會陰陰道炎



念珠菌會陰陰道炎

Table 16.1 Classification of Vulvovaginal Candidiasis

Uncomplicated	*Complicated*
Sporadic or infrequent in occurrence	Recurrent symptoms
Mild to moderate symptoms	Severe symptoms
Likely to be Candida albicans	Non-albicans Candida
Immunocompetent women	Immunocompromised, e.g., diabetic women

From **Sobel JD, Faro S, Force RW, et al.** Vulvovaginal candidiasis: epidemiologic, diagnostic, and therapeutic considerations. *Am J Obstet Gynecol* 1998;178:203â€"211.

念珠菌會陰陰道炎-治療

Table 3-17 Recommended Treatment of Vulvovaginal Candidal Infection
Intravaginal agents
Butoconazole 2% cream
5 g intravaginally for 3 days[a]
or
5 g (sustained-release) once
or
Clotrimazole
1% cream, 5 g intravaginally 7 to 14 days[a]
or
100 mg tablet intravaginally for 7 days
or
100 mg tablet intravaginally, 2 tablets for 3 days

Miconazole
2% cream, 5 g intravaginally for 7 days[a]
or
100 mg suppository intravaginally for 7 days[a]
or
200 mg suppository intravaginally for 3 days[a]
or
1200 mg suppository intravaginally once[a]
or
Nystatin 100,000-unit tablet intravaginally for 14 days
or
Tioconazole 6.5% ointment, 5 g intravaginally once[a]
Terconazole
0.4% cream, 5 g intravaginally for 7 days
or
0.8% cream, 5 g intravaginally for 3 days
or
80-mg suppository intravaginally for 3 days
Oral agent
Fluconazole 150 mg oral tablet once

結論

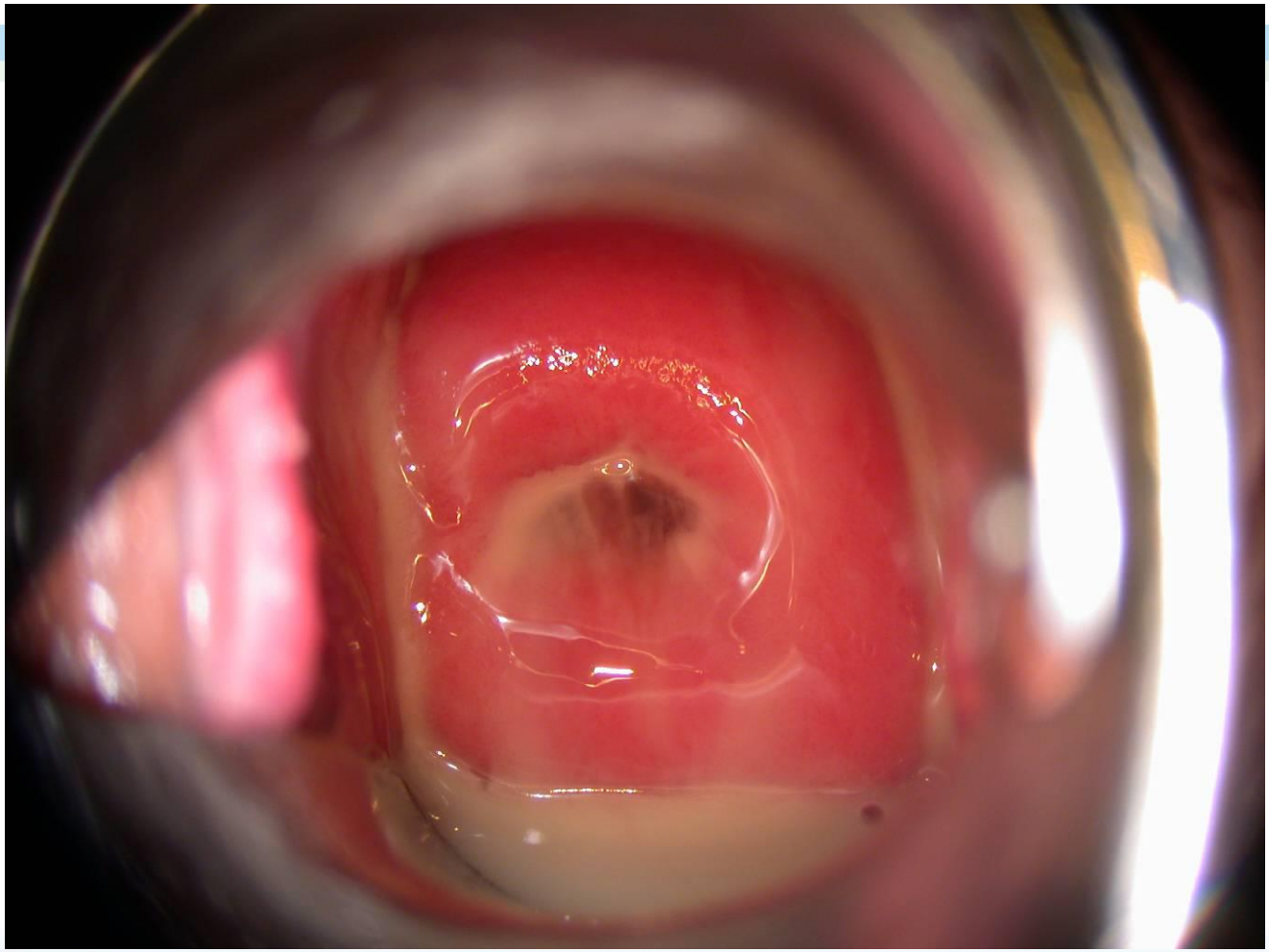
Table 3-15 Summary of Characteristics of Common Vaginal Infections					
Category	**Physiologic (normal)**	**Bacterial Vaginosis**	**Candidiasis**	**Trichomoniasis**	**Bacterial (streptococcal, staphylococcal, *E coli*)**
Chief complaint	None	Bad odor, increased after intercourse	Itching, burning, discharge	Frothy discharge, bad odor, dysuria, pruritis, spotting	Thin, watery discharge, pruritis
Discharge	White, clear	Thin, gray or white, adherent, often increased	White "cottage cheese like" discharge	Green-yellow, frothy, adherent, increased	Purulent
KOH "whiff test"	Absent	Present (fishy)	Absent	May be present	Absent
Vaginal pH	3.8–4.2	>4.5	<4.5	>4.5	>4.5
Microscopic findings	N/A	"Clue cells", slight increase in WBCs, clumps of bacteria (saline wet mount)	Hyphae and buds in 10-percent KOH solution (wet mount)	*Trichomonads* (protozoa with 3-5 flagella) may be seen moving on saline wet mount	Many WBCs

E coli = *Escherichia coli;* KOH = potassium hydroxide; N/A = not applicable; WBC = white blood cell.

黏液膿性子宮頸炎

- Mucoidy vaginal discharge, lacks of odour and vulval pruritis
- Speculum exam: yellow or cloudy mucoid discharge from cervix; erythematous, edematous and contact bleeding of endocervix
- 40-50% caused by C. trachomatis, others by N. gonorrhea
- Only 20-50% of chlamidia infection developed clinical apparent mucopurulent cervicitis
- 10-40% of upper reproductive tract spreading: endometritis, salpingitis

黏液膿性子宮頸炎



黏液膿性子宮頸炎

- The cervix is made up of two different types of epithelial cells: squamous epithelium and glandular epithelium.
- Trichomonas, candida, and HSV can cause inflammation of the ectocervix.
- N. gonorrhoeae and C. trachomatis infect only the glandular epithelium.

黏液膿性子宮頸炎

Diagnosis:

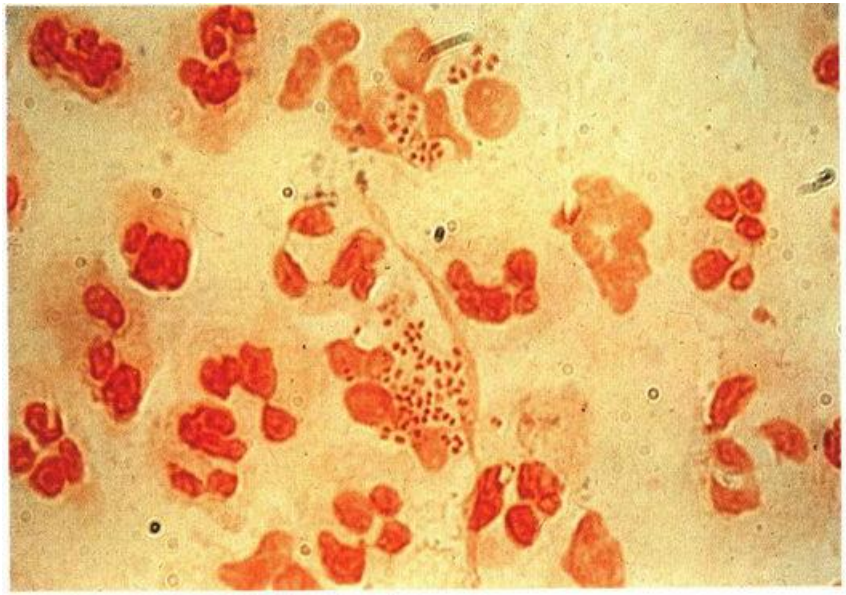
- A purulent endocervical discharge, generally yellow or green in color and referred to as mucopus.
- After removal of ectocervical secretions with a large swab, a small cotton swab is placed into the endocervical canal and the cervical mucus is extracted. The cotton swab is inspected against a white or black background to detect the green or yellow color of the mucopus.

黏液膿性子宮頸炎

- Placement of the mucopus on a slide that can be Gram stained will reveal the presence of an increased number of neutrophils (30 per high-power field).
  - Intracellular gram-negative diplococci--gonococcal endocervicitis
  - If the Gram stain results are negative for gonococci-- chlamydial cervicitis

淋病

- Ascending infection from lower genital tract to upper tract
- inflammation of the mucous membranes of the urogenital tract, throat or rectum.
- Endocervicitis, edometritis, salpingitis, PID, TOA
- 70% asymptomatic infection
- Anogenital as well as oropharyngeal sex activity



Intracellular gram-negative diplococci

淋病

Male uretheritis:

Out of the inflammed, reddened and swollen urethral opening drip a yellowish, purulent excretion.

Bacterology: gram-negative diplococci.

Culture: positive. Syphilis serology: negative

Complications:

pelvic infection leading to infertility, ectopic pregnancy, chronic pelvic inflammatory disease, tubo-ovarian abscess formation and chronic pelvic pain in women.

Septicemia, arthritis, endocarditis and meningitis in both sexes.

Infant blindness.

Urethral strictures in men.

披衣菌感染

- The most prevalent sexually transmitted bacterial infection in most developed countries: >10% prevalence
- Two biological variants:
  - Tracoma bio-variant:
    - Conjunctivitis (tracoma砂眼),
    - Mucopurulent cervicitis,
    - Acute urethral syndrome (urethritis)
  - Lymphogranuloma venereum bio-variant: genital ulcer, lymphadenitis, proctocolitis
- Sequelae:
  - Ectopic pregnancy, infertility
  - (in pregnancy) neonatal conjunctivitis, pneumonitis

淋病之治療

Table 3-19 Recommended Single-Dose Treatment of Uncomplicated Gonococcal Infection of the Cervix, Urethra, or Rectum
Ceftriaxone 125 mg IM
or
Cefixime 400 mg orally
or
Ciprofloxacin 500 mg orally
or
Ofloxacin 400 mg orally
or
Levofloxacin 250 mg orally
plus
Treatment for chlamydial infection if not excluded

From Centers for Disease Control and Prevention, 2006, with permission.

批衣菌感染

Table 3-20 Recommended Treatment of Chlamydial Infection
Primary treatment
Azithromycin 1 g orally once
or
Doxycycline 100 mg orally twice daily for 7 days
Alternative regimens
Erythromycin base 500 mg orally four times daily for 7 days
or
Erythromycin ethyl succinate 800 mg orally four times daily for 7 days
or
Ofloxacin 300 mg orally twice daily for 7 days
or
Levofloxacin 500 mg orally daily for 7 days

From Centers for Disease Control and Prevention, 2006, with permission.

急性骨盆腔感染

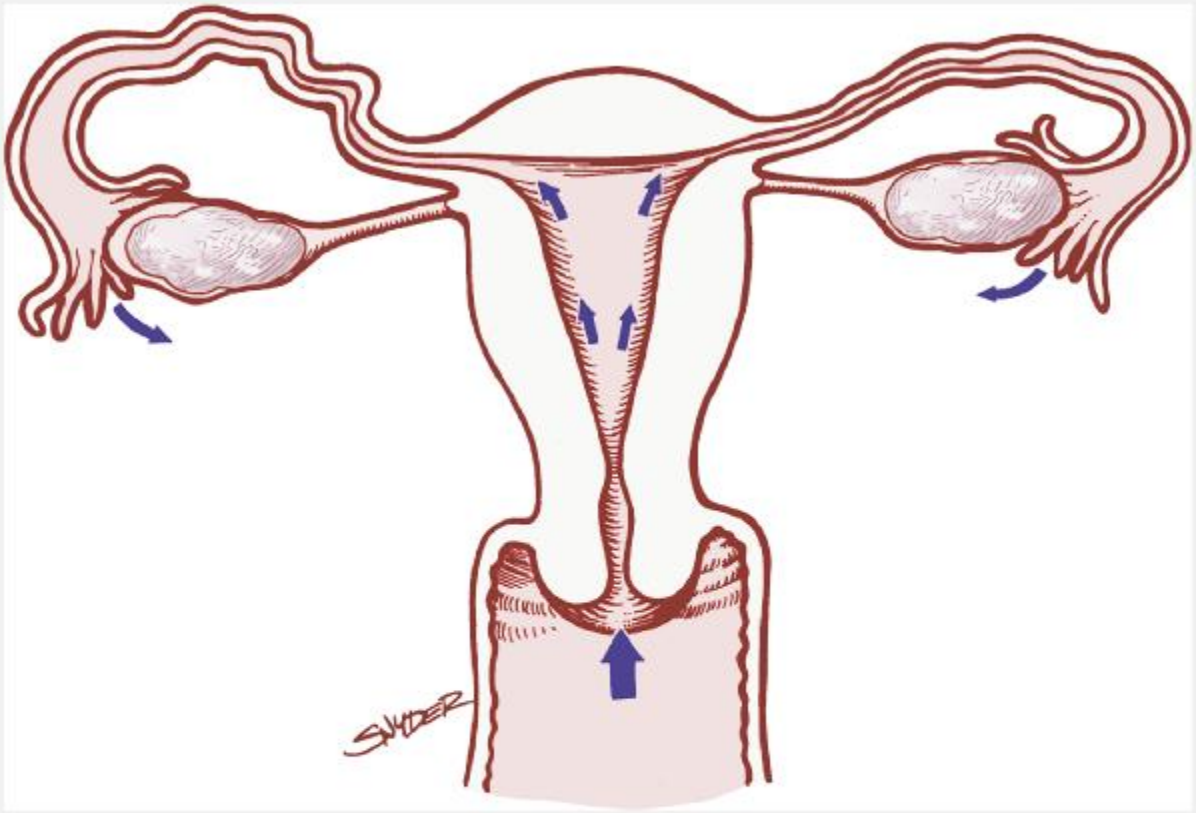


Figure 16.1 Micro-organisms originating in the endocervix ascend into the endometrium, fallopian tubes, and peritoneum, causing pelvic inflammatory disease (endometritis, salpingitis, peritonitis). (From **Soper DE.** Upper genital tract infections. In: **Copeland LJ**, ed. *Textbook of gynecology*. Philadelphia, PA: WB Saunders, 1993:521.)

Endometritis

↓

Salpingitis

↓

Peritonitis

急性骨盆腔感染

- Pelvic inflammatory disease commonly is caused by the sexually transmitted micro-organisms **N. gonorrhoeae** and **C. trachomatis**
- Less frequently, respiratory pathogens such as Haemophilus influenzae, group A streptococci, and pneumococci can colonize the lower genital tract and cause PID.
- Traditionally, the diagnosis of PID has been based on a triad of symptoms and signs, including pelvic pain, cervical motion and adnexal tenderness, and the presence of fever.

急性骨盆腔感染危險因子

Table 3-25 Pelvic Inflammatory Disease Risk Factors
Douching
Single status
Substance abuse
Multiple sexual partners
Lower socioeconomic status
Recent new sexual partner(s)
Younger age (10 to 19 years)
Other sexually transmitted infections
Sexual partner with urethritis or gonorrhea
Previous diagnosis of pelvic inflammatory disease
Not using mechanical and/or chemical contraceptive barriers
Endocervical testing positive for *N gonorrhoeae* or *C trachomatis*

Table 18.5 Guidelines for Treatment of Pelvic Inflammatory Disease

Outpatient Treatment

Cefoxitin, 2 g intramuscularly, plus *probenecid*, 1 g orally concurrently, or

Ceftriaxone, 250 mg intramuscularly, *or*

Equivalent cephalosporin

Plus:

Doxycycline, 100 mg orally 2 times daily for 14 days, *or*

Azithromycin, 500 mg initially and then 250 mg daily for a total of 7 days

Inpatient Treatment

Regimen A

Cefoxitin, 2 g intravenously every 6 hours, *or*

Cefotetan, 2 g intravenously every 12 hours

Plus:

Doxycycline, 100 mg orally or intravenously every 12 hours

Regimen B

Clindamycin, 900 mg intravenously every 8 hours

Plus:

Ceftriaxone, *1-2 g* intravenously every 12 hours, *or*

Gentamicin, loading dose intravenously or intramuscularly (2 mg/kg of body weight) followed by a maintenance dose (1.5 mg/kg) every 8 hours

資料來源

- Berek & Novak's Gynecology, 16ed.