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Texas Preventable Disease NEWS

contents:

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PELVIC INFLAMMATORY DISEASE

Pelvic inflammatory disease (PID) is a common complication of gonorrhea that affects many women in Texas; approximately 15% of women in the US with gonorrhea will develop PID as a result of their gonococcal infections. Although the disease is caused by several kinds of bacteria, this discussion will be limited to gonococcal pelvic inflammatory disease (GPID) with occasional reference to other etiologies.

PID is an infection related to the ascending spread of micro-organisms from the vagina or endocervix in situations unrelated to pregnancy, the puerperium, or surgical procedures. The clinical spectrum of PID ranges from minimal symptoms to severe, life-threatening involvement of intra-abdominal tissues and organs. Since the primary pathology frequently involves the fallopian tubes, the term salpingitis is often used. PID may be more than salpingitis because the uterus, ovaries, pelvic peritoneum, and other contiguous structures may also be infected.

As with many sexually transmitted diseases, young females with multiple sexual partners are at high risk for pelvic inflammatory disease. Minority women, especially black women, perhaps because of less access to medical care, are also at risk of pelvic inflammatory disease. The risk of PID in women who use an intrauterine device (IUD) is four times greater than in women who do not use IUDs. PID also predisposes women to future episodes of PID with the same, different, or a combination of bacteria.

CLINICAL PRESENTATION AND DIAGNOSIS

Clinical manifestations of PID develop within 48 hours or up to several weeks after the patient is infected, usually at the time of the next menstrual period. Although patients present with physical signs and symptoms localized to the abdominal and pelvic areas (low abdominal pain or tenderness, adnexal tenderness, tenderness on cervical motion, tender adnexal mass, or purulent endocervical discharge), some may present with the severe symptoms of the early-onset form of PID (fever, chills, nausea, vomiting, and anorexia). Approximately 25% of PID patients who become re-infected with gonorrhea and fail to seek treatment or who receive inappropriate treatment will develop severe sequelae, such as tubo-ovarian abscesses, ectopic pregnancy, infertility, chronic pelvic or abdominal pain, and recurrent menstrual pain and irregularities.

The diagnosis of PID is made on the basis of the clinical presentation of the disease. An evaluation of presence of risk factors for PID, exposure to an STD, presence of symptoms and signs outlined above, and positive laboratory tests will determine the existence of PID. Laboratory tests suggestive of PID include: a positive culture for Neisseria gonorrhoeae or Chlamydia trachomatis from the endocervix or cul-de-sac, high leukocyte count with a shift to the left, and a high

erythrocyte sedimentation rate. Acute appendicitis, ectopic pregnancy, chronic endometritis (tuberculous), and an infected intrauterine abortion can present like PID; therefore, these conditions should be considered in the differential diagnosis.

MANAGEMENT AND PREVENTION

Although many obstetricians/gynecologists recommend hospitalization for all PID patients, some patients with the milder manifestations can be managed on an outpatient basis if followed closely. This is a decision made by a physician on a patient-by-patient basis. Patients followed on an outpatient basis need to be followed daily, and if clinical response is not apparent in 48 to 72 hours, they should be hospitalized. Management of PID patients includes the use of appropriate antibiotics, close followup, a test of cure, and referral of all sexual partners for evaluation and treatment.

The following STD treatment guidelines published by the Centers for Disease Control (CDC) have been adopted by the TDH Venereal Disease Control Division.[1]

I. Ambulatory Treatment

When the patient is not hospitalized, one of the following combination regimens is recommended:

Cefoxitin: 2.0g, IM, OR **amoxicillin:** 3.0g, by mouth, OR **ampicillin:** 3.5g, by mouth, OR **aqueous procaine penicillin G:** 4.8 million units, IM, at 2 sites; each along with probenecid 1.0g, by mouth

FOLLOWED BY

Doxycycline: 100mg, by mouth, twice a day for 10 to 14 days

Tetracycline HCl 500mg, by mouth, 4 times a day can also be used, but is less active against certain anaerobes and requires more frequent dosing; both represent drawbacks in treatment of PID.

Comment: Cefoxitin or an equivalently effective cephalosporin plus doxycycline (or tetracycline) provides activity against N. gonorrhoeae, including PPNG, and C. trachomatis. PPNG-associated PID is not adequately treated with the combination of either amoxicillin, ampicillin, or aqueous procaine penicillin plus doxycycline.

II. Hospitalization and Inpatient Treatment

Hospitalization of patients with acute PID should be strongly considered when: 1) the diagnosis is uncertain, 2) surgical emergencies such as appendicitis and ectopic pregnancy must be excluded, 3) pelvic abscess is suspected, 4) severe illness precludes outpatient management, 5) the patient is pregnant, 6) the patient is unable to follow or tolerate an outpatient regimen, 7) the patient has failed to respond to outpatient therapy, or 8) clinical follow-up after 48 to 72 hours following the start of antibiotic treatment cannot be arranged. Many experts recommend that all patients with PID be hospitalized for treatment.

Rationale for Selection of Antimicrobials

The treatment of choice is not established. No single agent is active against the entire spectrum of pathogens. Several antimicrobial combinations do provide a broad spectrum of activity against the major pathogens in vitro, but many have not been adequately evaluated for clinical efficacy in PID.

Examples of Combination Regimens with Broad Activity against Major Pathogens in PID

1. **Doxycycline:** 100mg, IV, twice a day

PLUS

Cefoxitin: 2.0g, IV, 4 times a day

Continue drugs IV for at least 4 days and at least 48 hours after patient defervesces. Continue doxycycline 100mg, by mouth, twice a day after discharge from the hospital to complete 10 to 14 days of therapy.

Comment: This regimen provides optimal coverage for N. gonorrhoeae, including PPNG, and C. trachomatis. It may not provide optimal treatment for anaerobes, pelvic mass, or PID associated with an IUD.

2. **Clindamycin:** 600mg, IV, 4 times a day

PLUS

Gentamicin or tobramycin: 2.0mg/kg IV, followed by 1.5mg/kg, IV, 3 times a day, in patients with normal renal function.

Continue drugs IV for at least 4 days and at least 48 hours after patient defervesces. Continue clindamycin, 450mg by mouth, 4 times a day after discharge from the hospital to complete 10 to 14 days of therapy.

Comment: This regimen provides optimal activity against anaerobes and facultative Gram-negative rods but may not provide optimal activity against C. trachomatis and N. gonorrhoeae.

3. **Doxycycline:** 100mg, IV, twice a day

PLUS

Metronidazole: 1.0g, IV, twice a day

Continue drugs IV for at least 4 days and at least 48 hours after patient defervesces. Then continue both drugs at same dosage orally to complete 10 to 14 days of therapy.

Comment: Provides excellent coverage for anaerobes and C. trachomatis. Both drugs can be continued for oral therapy. Activity against some strains of N. gonorrhoeae, including PPNG and some facultative Gram-negative rods is not optimal.

III. PPNG-RELATED PID

Cases of PID caused by penicillinase-producing N. gonorrhoeae (PPNG) have been reported nationwide, including Texas. Because experience with treatment of this infection is very limited, hospitalization of most patients is advisable.

IV. Intrauterine Device

The IUD is a risk factor for the development of PID. Although the exact effect of removing an IUD on the response of acute salpingitis to antimicrobial therapy and on the risk of recurrent salpingitis is unknown, removal of the IUD is recommended soon after antimicrobial therapy has been initiated. When an IUD is removed, contraceptive counseling is necessary.

SUMMARY

In 1980, Dr. James Curran reported that the direct and indirect costs for PID and PID-associated ectopic pregnancy in the US were in excess of $1.25 billion for 1979.[2] More emphasis on prevention of PID could save millions of dollars. Although progress in the reduction of gonorrheal infection has been made in Texas since 1979, the high PID morbidity will be controlled effectively only with sustained reductions in the high level of gonorrheal infections. As with other STD's, proper clinical evaluation of all cases of uncomplicated gonorrhea and GPID should include reporting the cases to the Texas Department of Health or the local health department.

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References:

1. Centers for Disease Control. Sexually transmitted diseases treatment guidelines. MMWR 1982;31(no.2S,suppl):33S-60S.

2. Curran JW. Economic consequences of pelvic inflammatory disease in the United States. Am J of OB/GYN. 1980;138:848-51.

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