State of Alaska Epidemiology **Bulletin**

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Pelvic Inflammatory Disease, Anchorage, 1994-1995

Pelvic Inflammatory Disease (PID), a preventable complication of gonorrhea or chlamydial infection, is a major cause of infertility, ectopic pregnancy, and chronic pelvic pain. The Section of Epidemiology reviewed medical records at selected sites in Anchorage to evaluate PID.

Methods: Patients seen in Anchorage during 1994 or 1995 at any of three acute care hospitals, a multifacility urgent care center, or a large family practice clinic were included. PID was identified by reviewing charts with one or more of the following *International Classification of Disease, Ninth Revision* diagnostic codes: 098-098.89 (gonococcal infection), 614.0-614.9 (inflam-matory disease of the female pelvis, ovary, fallopian tube, or peritoneum), and 615.0-615.9 (inflammatory disease of the uterus, except cervix).

Case Definition

Confirmed PID was defined as a woman having:

- lower abdominal tenderness, and
- tenderness on motion of the cervix, and
- adnexal tenderness, and
- an absence of an established cause for these symptoms.

Plus at least one of the following:

- positive lab result for an etiologic agent from a pelvic organ, abscess, or fluid
- temperature >38° C
- leukocytosis with >10,000 WBC/cc
- pus obtained from the pelvis
- pelvic abscess or inflammatory complex
- sex with a person having *Neisseria gonorrhoeae, Chlamydia trachomatis*, or nongonococcal urethritis.

Clinical PID was defined as a woman clinically diagnosed as having PID who did not have confirmed PID.

Results: Of 679 medical records identified, 597 (88%) were located, abstracted, and classified as:

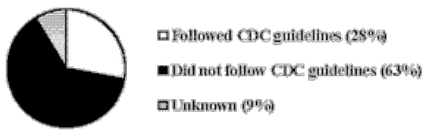
- 91 confirmed cases of PID
- 198 clinical cases of PID
- 276 illnesses that were not PID
- 32 records with inadequate information for classification.

The median age of the 289 confirmed or clinical cases was 23 years: 15-19 year olds accounted for 31% of the cases. Overall, 70 (24%) of the cases had laboratory proven gonorrhea or chlamydial infection. The number of cases tested (and percent positive) for gonorrhea and chlamydial infection were 256 (18%) and 250 (12%), respectively.

Eighty-two (28%) of the cases received an antimicrobial regimen recommended by the U.S. Centers for Disease Control and Prevention (CDC) (Figure 1).[1] The proportion that received CDC recommended treatment was greater for confirmed cases (37%) than for clinical cases (24%; $p<0.031$). The proportion of cases receiving a CDC recommended regimen did not differ between cases with versus without laboratory confirmed infection. Common regimens that did not follow CDC recommendations were:

- use of a regimen recommended for gonorrhea or chlamydial infection, but not for PID; or
- use of azithromycin; or
- duration of treatment shorter than 14 days.

Figure 1. Proportion of confirmed and clinical pelvic inflammatory disease cases receiving CDC recommended antimicrobial treatment



Discussion: Only 28% of PID cases were treated with a CDC recommended regimen. Early detection and appropriate treatment (Table 1) of sexually transmitted diseases will reduce the incidence of PID. Sex partners of patients treated for PID, gonorrhea, or chlamydial infection should be identified, examined, and empirically treated. Because sex partners of women with PID are likely to have gonorrhea or chlamydial infection, which could lead to continued transmission or reinfection, health-care providers need to assure that sex partners receive appropriate follow-up. The Section of Epidemiology provides expertise in support of these activities.

Table 1. Antimicrobial regimens in CDC guidelines for treatment of pelvic inflammatory disease, 1998[2]

Oral regimen A: ofloxacin 400 mg po twice a day for 14 days *plus* metronidazole 500 mg po twice a day for 14 days.

OR

Oral regimen B: doxycycline 100 mg po twice a day for 14 days *plus one of the following*: ceftriaxone 250 mg IM once; *or* cefoxitin 2 g IM with probenicid 1 g po; *or* a third-generation parenteral cephalosporin (e.g., ceftizoxime or cefotaxime).

OR

Parenteral regimen A: doxycycline 100 mg IV or po every 12 hours *plus either* cefotetan 2 g IV every 12 hours *or* cefoxitin 2 g IV every 6 hours.

OR

Parenteral regimen B: clindamycin 900 mg IV every 8 hours *plus* gentamicin 2 mg/kg of body weight IV or IM loading dose followed by 1.5 mg/kg every 8 hours (single daily dosing is also acceptable).

OR

Alternate parenteral regimens:
a. metronidazole 500 mg IV every 8 hours *plus either*

- ofloxacin 400 mg IV every 12 hours, *or*
- ciprofloxacin 200 mg IV every 12 hours *and* doxycycline 100 mg IV or po every 12 hours.

OR

b. ampicillin/sulbactam 3 g IV every 6 hours *plus* doxycycline 100 mg IV or po every 12 hours.

Parenteral to oral transition: Generally, patients can be switched within 24 hours of clinical improvement to *either* doxycycline 100 mg po twice a day *or* clindamycin 450 mg po four times a day. Treatment should continue for a minimum of 14 days of total therapy.

References:

1. Centers for Disease Control and Prevention. 1993 Guidelines for treatment of sexually transmitted diseases. MMWR 1993. 42(RR-14):1-102.
2. Centers for Disease Control and Prevention. 1998 Guidelines for treatment of sexually transmitted diseases. MMWR 1998. 47(RR-1):1-116.

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