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PELVIC INFLAMMATORY DISEASE IN OREGON

THE NEXT YOUNG WOMAN who comes into your office with abdominal pain and tenderness may not have just a case of irritable bowel disease or viral gastroenteritis. She may have acute pelvic inflammatory disease (PID), especially if she has a vaginal discharge. PID and its sequelae are serious and largely preventable medical problems that are costly to society and potentially devastating to the women affected.

In this issue of the *CD Summary* we review PID trends in the US and Oregon, as well as treatment and prevention strategies. This article coincides with the publication of the *2002 Sexually Transmitted Disease Treatment Guidelines* from CDC, covering the diagnosis and treatment of PID and other STDs.

PID is an upper genital-tract complication of any of several sexually transmitted organisms, including *Chlamydia trachomatis* (CT), *Neisseria gonorrhoeae* (GC), anaerobes, and genital mycoplasmas. Although accurate epidemiology is lacking, experts estimate anywhere from 500,000 to one million cases occur each year in the US.[1,2] Long-term sequelae of unrecognized and untreated PID include chronic pain, ectopic pregnancies, and infertility.[3] The risk for infertility following a single episode of PID is 2–10%, but subsequent episodes can increase that risk up to 75%.[4] Annually, PID and its sequelae account for as much as $1.6–1.9 billion of direct medical care costs in the United States.[2] While our best guess is that PID is declining in Oregon and nationally, it still causes an enormous amount of unnecessary and expensive morbidity.

Among sexually active females, risk factors for PID include young age, previous PID or STD, lack of barrier contraceptive use, and a history of multiple sex partners, or a new sex partner. Younger women are at especially high risk of PID because of both behavioral and anatomic factors (increased exposure of cervical columnar epithelium in young women).[3]

SURVEILLANCE

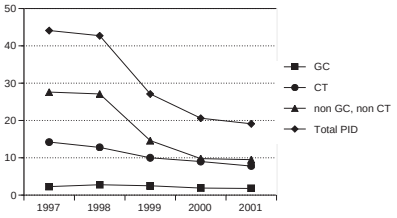
Like most states, Oregon has a 2-pronged system of disease reporting, with parallel requirements for both laboratories and clinicians. PID is one of the reportable conditions, but there is no lab test for PID per se. This poses problems for PID surveillance, because while laboratory reporting is generally very good, clinician reporting is typically very poor. As a result, PID statistics are very incomplete, and our ability to interpret the data we do have about PID is limited. We really need front-line clinicians to not only keep PID in the differential but to report when you make the diagnosis.

A surveillance project involving our office and the emergency department (ED) of a Portland hospital gave us a glimpse of the extent of under-reporting of PID in Oregon. During a chart review of 72 women diagnosed in the ED with PID or acute salpingitis, fewer than 10% of the women were reported to local health departments within six months of the visit (the law requires reporting within 1 day for those with positive CT or GC tests, and 1 week for PID with negative CT and GC tests). Although this is just one hospital ED, this shoddy performance is the rule rather than the exception in Oregon.

Poor reporting limits our ability to understand the extent of and risk factors for PID in Oregon, and focus our activities accordingly. It also means missed opportunities for disease prevention. By following up on PID cases, the public health system can help assure appropriate antibiotic management, patient adherence to treatment, treatment of sex partners, patient education about the risk of recurrent PID, and facilitate earlier detection of complications. Because of poor reporting we are missing opportunities to decrease the spread of PID, and save millions of dollars that would otherwise be spent treating infertility and other complications of PID.

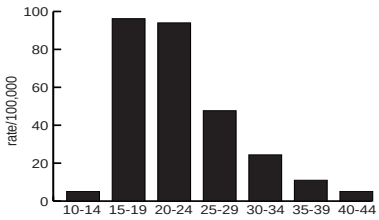
OK, enough whining. In 2001 a total of 363 cases were reported in Oregon. The reported incidence has been decreasing since 1997 (see figure) for gonoccoccal

Oregon PID rates 1997–2001, by organism



PID, chlamydial PID, and PID caused by unidentified organisms. The highest rates of acute PID were recorded for women 15–24 years old (see figure); the same is true nationally. Rates do vary considerably by county, reflecting not only varying incidence but also the likelihood of diagnosis and reporting.

Oregon reported PID rates 2001, by age group



Assuming that the decrease in chlamydial PID is real, increased CT testing (resulting in treatment and decreased spread of CT) may be partially responsible it. In the public sector (family planning clinics, STD clinics, etc.), routine testing has been increasing since the early 1990s. Testing and treatment for CT may also be increasing in managed care systems, since the rate of routine CT testing of sexually active women aged 15–24 by health plans is one measure of quality of care that is tracked nationally through the Health Plan Employer Data and Information Set (HEDIS). We can't explain the apparent decrease in non-CT and non-GC PID; we don't know if this is an artifact of under-reporting or if there is a real decrease.

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National surveillance totals are based on cases reported to CDC by state health departments, and so are no more reliable than state data. However, national survey data suggest that at least 250,000 American women had PID-related office visits in 2000, and more than 50,000 were hospitalized.[1,2] The microbial etiologies for PID appear to vary across the US and Canada according to time and location. From the 1970s through the early 1990s, studies in different parts of the US suggested that CT could be detected in between 5% to 50% of PID infections.[8]

Oregon physicians are required by law to report cases of PID within 1 week of diagnosis. Some cases are identified through public health agency follow-up to the report of a positive CT or GC lab test. Even at its best, however, "lab-assisted" surveillance for PID would miss many cases, as some patients may never have laboratory testing performed and others with PID may have negative CT and GC test results.

PREVENTION

PID is almost always a sequela to a sexually transmitted disease. Thus, not surprisingly, strategies that reduce the risk of STDs reduce the risk of PID. Abstinence, (mutual) monogamy, and consistent condom use are all better than the alternatives when it comes to reducing the risk of STDs. Secondary prevention is another way to reduce the risk of PID. Treating even (perhaps especially) asymptomatic STDs reduces the risk of later complications. Screening of all sexually active females is critical because of the high prevalence of asymptomatic infections—perhaps 75% of women infected with CT.[3] Routine testing and treatment of this population has been shown to decrease PID rates.[5]

TREATMENT

The new STD treatment guidelines[7] recommend either of two outpatient regimens for PID:

- ofloxacin or levofloxacin plus metronidazole both for 14 days; or
- ceftriaxone (or another parenteral third-generation cephalosporin) in one dose plus doxycycline for 14 days with or without metronidazole.[5]

It is critical to treat presumptively for both *Chlamydia* and gonorrhea, and it is very important to treat the sexual partner in order to prevent a recurrence of infection. The complete 2002 STD treatment guidelines are available online at the CDC website (*http://www.cdc.gov/std/treatment/rr5106.pdf*).

Remember that single-dose azithromycin, while a good treatment for uncomplicated cervicitis, is not appropriate for PID. Resist the appealing temptation of treating PID with single-dose azithromycin. As part of the hospital record review cited above, treatment records were reviewed. Of these women diagnosed with PID, almost 50% of them were prescribed azithromycin in the ED—not a good sign.

EXECUTIVE SUMMARY

- Don't depend on laboratory reporting. Set up a mechanism in your office to report women with PID to the health department.
- Work with local health departments to assure that women treated with PID receive adequate education about possible sequelae of PID and that their sexual partners are given appropriate treatment as well.
- If you diagnose a woman with PID, use recommended treatments and avoid azithromycin.
- On an annual basis, routinely test sexually active women 15–24 years of age for chlamydia, regardless of symptoms.
- Encourage consistent condom use to prevent STDs.
- Encourage mutual monogamy to prevent STDs.

FOR MORE PID INFORMATION

- DHS STD program: *http://www.ohd.hr.state.or.us/std/about.htm.*
- Centers for Disease Control, National Center for HIV, STD, and TB Prevention: *http://www.cdc.gov/nchstp/dstd/HEDIS.htm.*
- American Social Health Association: good information for the public about PID and a variety of other STDs. *http://www.ashastd.org/stdfacs/pid.html.*

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