

Fluorescent-Antibody-Negative Penicillinase-Producing *Neisseria gonorrhoeae*

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The incidence of monoclonal-fluorescent-antibody-negative penicillinase-producing *Neisseria gonorrhoeae* is not known. Two isolates which could not be identified by using a commercial monoclonal fluorescent-antibody conjugate are described. The use of more than one confirmatory method is recommended.

Penicillinase-producing *Neisseria gonorrhoeae* (PPNG) was first reported in the United States in 1976 (5). Cases of PPNG have steadily increased; in 1986, 10 years after the organism was first reported, there were 16,608 cases reported to the Centers for Disease Control—a 90% increase over 1985 (7). These cases often require additional laboratory testing, increased drug costs, extra clinic visits, and more extensive disease intervention activities. Surveillance for antimicrobial agent-resistant strains of *N. gonorrhoeae* is vital for sexually transmitted disease control programs. The Centers for Disease Control recommends routinely testing all gonococcal isolates for β -lactamase activity. We report on two isolates of PPNG which could not be identified by using a commercial monoclonal fluorescent-antibody conjugate.

A 53-year-old male presented to a nonprofit clinic with a symptom of penile discharge. A Gram stain was performed, and gram-negative intracellular diplococci were seen on the smear. A specimen was obtained from the patient and cultured. He was treated with 3.5 g of ampicillin, 1.0 g of probenecid, and 500 mg of tetracycline four times a day for 10 days. His partner, a 23-year-old female, presented with a vaginal discharge and dysuria. A specimen was obtained and cultured. She was treated with the same regimen. Both specimens were inoculated onto modified Thayer-Martin plates and transported to the Public Health Laboratory, where they were examined by standard methods (4). Gram-negative diplococci from both patients were β -lactamase positive when tested by the iodometric strip test. β -Lactamase activity was confirmed by the chromogenic cephalosporin (nitrocefin, compound 87/312; Glaxo Pharmaceuticals, Ltd., Greenford, England) tube test (8). Since species of gram-negative diplococci other than *N. gonorrhoeae* are frequently β -lactamase positive (e.g., *Branhamella* sp. [2]), an attempt was made to confirm identification of the isolates by using a monoclonal fluorescent antibody to *N. gonorrhoeae* (Syva Co., Palo Alto, Calif.). The two isolates were prepared according to the product insert instructions and repeatedly tested negative. The insert from the manufacturer recommends that any colonies which are morphologically consistent with *N. gonorrhoeae* that give negative or equivocal results should be tested by an alternate method, such as carbohydrate degradation. Results for carbohydrate degradation by the Rapid Fermentation Test (4) and the Superoxol test (6) were characteristic for *N. gonorrhoeae*. The isolates were referred to our state laboratory and the Centers for Disease Control and were identified as PPNG. Our state

laboratory evaluated the monoclonal fluorescent-antibody conjugate (Syva), and their results agreed with ours. The two patients were seen 5 days after their initial visit and treated with 250 mg of ceftriaxone intramuscularly as recommended by the Centers for Disease Control (1). They were seen approximately 17 days later for test of cure; both had responded well to treatment and were without symptoms. They were culture negative.

These two epidemiologically related isolates were identified by the Centers for Disease Control as serovar IB-19. The Syva fluorescent-antibody conjugate contains monoclonal antibodies prepared against purified outer membrane protein I of *N. gonorrhoeae* and is formulated to react with serovars containing outer membrane proteins IA and IB (3). According to Syva, high levels of sensitivity and specificity were obtained with serovar IB-19 during initial trials, and no explanation is yet known to account for those isolates which fail to react with the conjugate (Steve Barr, Syva Co., personal communication). Nevertheless, previous studies have reported excellent sensitivity and specificity using the Syva monoclonal fluorescent-antibody conjugate (3, 9). This is the first published report, to our knowledge, of a PPNG strain which failed to stain with the Syva monoclonal fluorescent-antibody conjugate. Although the incidence of such strains is unknown, these isolates illustrate the importance of using more than one confirmatory method with any unusual gonococcal isolate such as PPNG.

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