PERTUSSIS: THE COUGH THAT STILL WON'T GO AWAY

Joey, a pleasant 4-year-old male, visits his family doctor after five days of paroxysmal coughing, whooping and posttussive vomiting. The physician swabs for a specimen, prescribes antimicrobial therapy and reports Joey to the local health department as a suspect case of pertussis. Bill, a rather unpleasant 40-year-old male (who occasionally baby sits Joey), visits another doctor after two weeks of spasmodic coughing, posttussive choking, sore throat, and “sweating attacks.” The physician, not thinking pertussis (age discrimination?), prescribes empiric therapy with a broad-spectrum antibiotic and a cough suppressant, but does not order any diagnostic tests. Local health department investigators, embroiled in an exploding pertussis outbreak, eventually determine that Bill has pertussis after he is epidemiologically linked to Joey. Unfortunately, in the meantime Bill has visited his three-month-old niece, who is in day care. The wheel turns. Within six months, 143 cases have been linked to Bill through this and similar chains of transmission. Two infants have died, and 41 have been hospitalized.*

THE PERTUSSIS PROBLEM is not the same as it was in the 1950s—or even the 1970s. Whooping cough, once a common disease of young children, is now a not-so-common—but-still-not-rare disease of older teenagers and adults. This CD Summary describes changes in the epidemiology, clinical manifestations and diagnostic testing.

In 1996, 72% of two-year-old Oregonians had vaccine-induced immunity to pertussis.1 As childhood-specific incidence rates have steadily declined, the proportion of cases among older persons has increased. In 1993 5% of cases were ≥15; by 1997 that proportion was 20%. Because whole-cell pertussis vaccine is only administered to children under seven and

*Not only have the names been changed to maintain confidentiality, in fact we made up the entire anecdote—sort of like the Boston Globe. But it could happen ....
references

pertussis specimen collection and transport*
- Collect specimens from the nasopharynx (not the throat) with a calcium alginate swab (Calgiswab™).
- Insert the Calgiswab completely into charcoal transport medium (CTM).
- Refrigerate and ship immediately to the Public Health Laboratory, or incubate at 35°C for 24-48 hours, then ship at room temperature. Call the Lab (503/229-5885) if you have any questions.

*Although probably similar, specimen handling procedures may vary for in-house labs or for shipment to your regular private lab. Check with your lab before you collect specimens.

(1991-1997) was made during the acellular pertussis vaccine trials. Serology may be a weak foundation for a pertussis diagnosis, however, as antibodies may reflect an earlier exposure and be unrelated to current illness. In general, definitive serologic diagnosis of pertussis can be done only in specialized research laboratories using an array of assays not generally available to clinicians. Executive Summary

Consider the possibility that older children and adults may have pertussis when they have a history of two or more weeks of spasmodic or paroxysmal coughing. Under such circumstances, it may be prudent for physicians to identify and administer vaccine to infants in the patient’s family, and to prescribe erythromycin for other family members. Same-day notification of the local health department ensures identification and vaccination or prophylaxis of case contacts. Prophylaxis prevents secondary cases, severe illness, complications, transmission to susceptible children and so forth in the chain of infection. We want our opening scenario to remain fictional. Of course, all kids should be properly immunized, particularly infants (over 2 months old) who are greatest risk of dying of pertussis. Although the newly developed acellular pertussis vaccine holds promise both to decrease the incidence of infection or colonization in adults, and to protect infants via passive antibody transfer from momms immunized in the second or third trimester, that vaccine is currently licensed only for children. We can anticipate adult pertussis for some time to come.

vaccine information statements redux
Let us return briefly to the dreary topic of Vaccine Information Statements (VIS) and their relation to informed consent issues for immunizations. Use of the VIS is a federal (as in “if you don’t like it don’t call us”) mandate of the National Childhood Vaccine Injury Act (NCVIA). The VISes provide information about vaccines, including the benefits, risks, and potential reactions associated with each vaccine. According to this federal law, all providers—public and private—who administer vaccines covered by the NCVIA (hepatitis B, *Hib*, varicella, diphtheria, tetanus, pertussis, measles, mumps, rubella, and polio) must give the relevant VIS to the patient (or parent or attorney) every time one of these vaccines is administered. This holds true regardless of whether the vaccine is purchased with public or private funds. To comply with the Act, the VIS gift must be documented in the patient’s permanent medical record. No signed receipt is required. The medical record must also include the date of vaccine administration, the manufacturer and lot number of the product, and the provider’s name and address.

There is no requirement that VIS duties be performed by the physician; office staff can handle it. Camera-ready copies of the various VISes are available from the OHD Immunization Program (503/731-4020; David Broyles) or can be downloaded at http://www.cdc.gov/nip/vistable.htm. All VIS-related mandates are independent of Oregon state laws requiring informed consent for medical procedures, which include immunizations, brain surgery, and the like. Oregon physicians should follow their standard procedures for obtaining and documenting informed consent for immunizations.

* Added August 1997.