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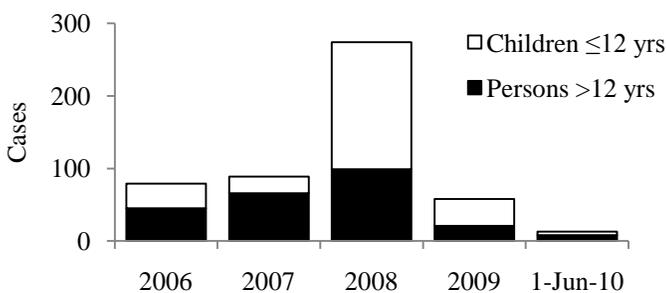
New Pertussis Chemoprophylaxis Recommendations for Alaska

Background

Pertussis is a contagious, vaccine-preventable respiratory illness caused by the bacterium *Bordetella pertussis*. An endemic disease in the United States, pertussis can cause severe illness and death, primarily among infants aged <6 months. Pertussis is spread to close contacts (e.g., household contacts) primarily through respiratory droplets or by direct contact with respiratory secretions from an infected person. Ill persons typically become non-infectious after 5 days of treatment with azithromycin, clarithromycin, or erythromycin. In the absence of treatment, ill persons can remain infectious for weeks.

Adolescents and adults are important reservoirs for pertussis in the community. In these populations, pertussis is typically less severe and often goes undiagnosed. From January 1, 2006 through June 1, 2010, 513 cases of pertussis were reported to the Alaska Section of Epidemiology (SOE); 239 (47%) occurred in persons aged >12 years (Figure).

Figure. Pertussis Cases Reported to SOE (N=513) — Alaska, January 1, 2006 through June 1, 2010



For more than 30 years, antibiotics have been recommended for treating infectious cases and for preventing illness among contacts through chemoprophylaxis. However, data to support the effectiveness of contact chemoprophylaxis in controlling community spread of pertussis are lacking. The only randomized, placebo-controlled trial on the effectiveness of pertussis prophylaxis found no difference between control and prophylaxis groups in secondary illness (both groups had 70% secondary attack rates of clinical cases among household contacts).¹ This study concluded that household prophylaxis was not an effective public health tool for pertussis prevention.

New Pertussis Prophylaxis Recommendations for Alaska

Because of the lack of data to support chemoprophylaxis of all contacts, the American Public Health Association's *Control of Communicable Diseases Manual* and Oregon Department of Human Services developed a targeted strategy that focuses on protection of infants.^{2,3} Chemoprophylaxis is recommended only for close contacts who are infants, or likely to be in contact with infants. The goal is to prevent serious illness or death among this most vulnerable population and decrease the use of antibiotics.

The Alaska SOE now recommends chemoprophylaxis for close contacts of pertussis cases only if the contacts are infants aged <1 year or are likely to be in contact with infants (Box). A close contact includes: a) immediate family members; b) those who spent many hours together, or who slept under the same roof; c) and anyone with direct contact to a case's respiratory secretions.

All contacts should have their immunization status verified and updated as appropriate for age. Chemoprophylaxis is recommended for exposures within 42 days (2 maximum incubation periods). Beyond this time, pertussis is unlikely to develop. Symptomatic contacts are considered clinical cases and should be treated with antibiotics. Asymptomatic contacts who do not meet the criteria for chemoprophylaxis should be advised to

seek care promptly if they become symptomatic and to inform their health care provider about their pertussis exposure.

Box. Close Contacts that Should Receive Pertussis Prophylaxis

- Infants (<1 year of age);
- Pregnant women in the 3rd trimester, since they will soon have contact with an infant;
- ALL household contacts of a case **IF** there is an infant or a pregnant woman in the 3rd trimester in the same household;
- ALL close contacts who attend/work in a childcare setting in which a case of pertussis was diagnosed **IF** there is an infant or a pregnant woman (3rd trimester) in the setting, or;
- Other contacts at the discretion of SOE (e.g., pediatric health care workers, unimmunized contacts, or other pregnant women).

Discussion

While chemoprophylaxis of all close contacts has not been shown to be successful in preventing community transmission of pertussis to date, it may still prevent disease under some circumstances. Lack of supportive data combined with other factors (e.g., cost and concerns about the occurrence of drug resistance) contribute to the need limit prophylactic treatment to focus on protecting infants, who are particularly vulnerable to severe outcomes. The most effective means to control pertussis transmission is vaccination with a pertussis-containing vaccine.

Recommendations

1. Infants should be vaccinated with four doses of DTaP vaccine starting at 2 months of age, with a fifth booster dose administered before entering school. Adolescents 11 through 18 years of age should get one booster dose of Tdap, and adults 19 through 64 years of age should substitute Tdap for one booster dose of Td.⁴
2. Promptly treat laboratory-confirmed and suspected clinical cases of pertussis with an appropriate antibiotic. Macrolides are considered first-line drugs for treatment and postexposure chemoprophylaxis.⁵
3. Confer with SOE to provide chemoprophylaxis to infants and persons with contact to infants who were exposed to confirmed or suspected cases of pertussis (Box).
4. Close contacts aged <7 years who have not received 4 DTaP doses or have not received a DTaP dose within 3 years should be given a dose as soon after exposure as possible.
5. Report all suspected or confirmed cases of pertussis to the Section of Epidemiology at 907-269-8000 during office hours or 1-800-478-0084 after hours.
6. Consult the Alaska State Public Health Laboratory manual for details on submitting specimens for pertussis testing: http://www.hss.state.ak.us/dph/labs/publications/image/Lab_Svcs_Manual.pdf.

References

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