State of Alaska Epidemiology **Bulletin**

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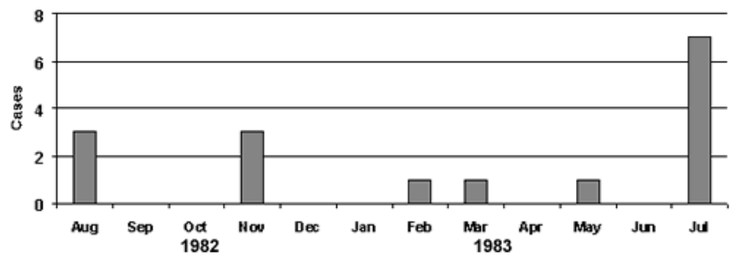
Campylobacter: An Enteric Organism Worth Considering

In early August, a nurse practitioner in Pelican, Southeast Alaska reported *Campylobacter jejuni* enterocolitis in a 5-month-old infant. Several other members of the infant's family developed diarrhea following its onset in the baby. The infant, an adopted Southeast Asian, had arrived in Pelican July 22. During the week that followed, the baby was cranky and had frequent watery green stools. The baby lost approximately five percent of her total body weight during the first week of illness. Initial treatment with soybean formula was later changed to Pedialyte. By July 28 the infant was improving with 4-6 semi-formed stools daily. Stool culture sent to the Southwest Regional Laboratory August 1 was positive for *Campylobacter jejuni*.

Two siblings, 4 and 6 years old, developed frequent watery diarrhea associated with drowsiness, anorexia, and abdominal cramps on July 30. Their stools also grew Campylobacter. August l, the mother and aunt developed similar symptoms, followed four days later by the adoptive brother and father. The family receives treated city water. Siblings were said not to have diapered the infant; mother and aunt claim to have washed their hands with soap and water after handling the ill baby. Symptomatic family members including the baby were treated with erythromycin.

Another group of Campylobacter cases was reported by the Infection Control Nurse at an Anchorage hospital (see graph). Seven cases of Campylobacter associated diarrhea (all adults) presented to the hospital during late July; two of them were hospitalized. Campylobacter isolates have been increasingly recognized in Alaska since 1981. Because the occurrence of 7 cases in one month is unusual, we attempted to contact the seven Providence cases to look for a common source. Five of the seven could be contacted by telephone. None of the described common factors (discussed below) associated with acquisition of Campylobacter enterocolitis could be found in the five patients interviewed.

Campylobacter - Isolates by Month
Southcentral Region
August 1982 thru July 1983
N = 16



Campylobacter is a small, motile, gram negative, microaerophilic, rod-shaped bacteria. These organisms have been known for many years to be pathogenic for cattle, pigs, sheep, and birds, but their role in human illness was overlooked for a long time because they do not grow on the selective media that are used for the routine isolation of bacteria causing diarrhea. By the use of specialized media (e.g., Campy-BAP), Campylobacter jejuni is isolated at least as often as Shigella or Salmonella in many locations.

Campylobacter affects humans of all ages; perinatal and neonatal infections have been documented. The incidence of infection with this organism varies with the season, highest during summer and early fall.

Campylobacter jejuni is isolated from the stools. In developed countries it is rare to culture the organism from the stools of asymptomatic individuals, but in the tropics it is found in healthy children as well as symptomatic ones. Transmission is by ingestion of contaminated food, milk, or water. The source of contamination may be infected children, poultry, dogs, or cattle.

Clinical symptoms usually begin with rapid onset of fever, malaise, headache, and myalgia, as well as extraintestinal symptoms including nausea, vomiting, abdominal cramps, and loss of appetite. Diarrhea begins within 24 hours and is characterized by watery stools which are often mucoid, bloody, and bile stained. Symptoms may last from two days to weeks. The disease is usually self-limited, and the organisms are rarely carried more than 3 weeks. However, relapses occur in 25% of untreated cases. A few patients develop complications such as reactive arthritis. Erythromycin may shorten the period of shedding of the organism.

Campylobacter cases should be reported through the Rapid Telephonic Reporting system at Zenith 1700 or 561-4234.

(Reported by Dorothy Meriam, (N-P) Pelican; Joan Rogers, RN, Providence Hospital; Billie Thomas, Rose Tanaka, Section of Laboratories; Candace Long, Section of Communicable Disease Control).

PERTUSSIS IN AN UNIMMUNIZED CHILD

August 30, 1983 a 3-year-old boy was seen at the Providence Hospital Emergency Room after three weeks of cough. Illness began with coryza, but one week later a persistent, spasmodic cough developed which ended with the child choking and vomiting. Nasopharyngeal swab was fluorescent to Pertussis (causative organism of whooping cough) on an indirect antibody stain. The child was placed on erythromycin, but was still coughing two weeks later. He had never been immunized. Four to five weeks prior to the onset of his symptoms, the child and his family had moved to Anchorage from Nevada.

Mother, father, and an unimmunized 4-year-old sister developed spasmodic cough 2-3 weeks after the 3-year-old boy.

Laboratory investigations were not performed on other family members who were also prescribed erythromycin. Community surveillance has detected no additional cases.

There is growing concern that public acceptance of pertussis immunization may be decreasing. Since an April 1982 television program made exaggerated charges that pertussis vaccine is dangerous, reported cases of pertussis have been increasing significantly nationwide. Through the first 35 weeks of 1983, reported cases in the U.S. increased 31% over the same period in 1982 and 31% over the median number of cases reported through the 35th week in the last five years.

In Alaska, another cause for concern is the increasing utilization of pediatric diphtheria-tetanus vaccine (DT) instead of DTP. From July 1981 to June 1982, the Immunization Unit dispensed only 240 doses of DT vaccine. From July 1982 to June 1983, 1,470 doses were dispensed. This trend could lead to an increase in the number of children susceptible to pertussis, increasing the potential for a major outbreak of pertussis in the future. It is vital that thorough counseling be provided to parents who decline pertussis vaccine for their children.

(Reported by Tim Samuelson, M.D.; Natalie DeLue, M.D., Anchorage; Joan Rogers, RN, Providence Hospital; Craig Leutzinger, Immunization Coordinator, Immunization Unit, Section CDC)