

CAMPYLOBACTERIOSIS

[(Vibriosis, vibronic abortion)]

SPECIES: laboratory, domestic and wild species

AGENT: Campylobacter (Vibrio) fetus ss. jejuni, a gram negative, microaerophilic, curved, motile rod that is worldwide in distribution.

RESERVOIR AND INCIDENCE: isolated from laboratory animals including dog, cat, hamsters, ferrets (>60 % in one study), nonhuman primates, rabbits, swine, sheep, cattle, and birds Although most cases of human campylobacteriosis are of unknown origin, infection after contact with sick animals has been well documented. *In most reports of pet to human transmission of C. jejuni, diarrheic puppies or kittens from pounds have been the source of infection. Pet birds, chickens, and kittens are implicated in other reports. A lab animal technician developed Campylobacter enteritis after feeding and cleaning up after a recently imported nonhuman primate. The organism was first isolated from nonhuman primates from Macaca fascicularis in 1979 and has since been reported in baboons, rhesus, patas, and marmosets. Can be shed for long periods of time in stool by asymptomatic carriers. Younger animals seem more likely to acquire the infection and hence may more commonly shed the organism.

TRANSMISSION: Transmission is thought to occur by the fecal-oral route, through contamination of food or water, or by direct contact with infected fecal material. The organism has also been isolated from houseflies. At 40 C the organism is viable for three weeks in feces and milk, four weeks in water, and five weeks in urine. Campylobacter is shed in the feces for at least six weeks after infection. Infected children may transmit infection to puppies or kittens, which may then expose other children. Poultry and cattle are the main reservoirs for human infection, which is acquired by ingesting contaminated raw milk, undercooked chicken or other food contaminated in the kitchen.

DISEASE IN NONHUMAN PRIMATES: The majority of infected animals are asymptomatic carriers. Mild to severe enteritis may be seen - accompanied by fever, vomiting, and mucus and blood in the feces. Bacteremia may occur, complicated by meningitis or abortion. Most signs appear 1 to 7 days after exposure and affect primarily the jejunum, ileum, and colon.

DISEASE IN OTHER ANIMALS: Campylobacter has also been shown to cause hepatitis in poultry, proliferative ileitis in hamsters, and abortion in ruminants. In all animals, it may be associated with diarrhea, especially when acting secondarily to virus infection.

DISEASE IN MAN: Causes acute gastrointestinal illness, diarrhea with or without blood, abdominal pain, and fever. It may cause pseudoappendicitis and, rarely, septicemia and arthritis. It is usually a brief, self-limiting disease. In humans the asymptomatic carrier state is rare. Reinfection is possible in both animals and man.

DIAGNOSIS: 1. Rapid diagnosis is done with dark field or phase contrast microscopy of fecal material. 2. This is confirmed by stool culture which requires a special selective growth media(CAMPY-BAP) and incubation at 43oC with 10% CO₂, 5% O₂ and 85% Nitrogen. 3. Warthin Starry stain and histo 4. Various techniques are being used to detect seroconversion to the antigens of Campylobacter.

TREATMENT: Animals can be treated based on culture and sensitivity. Currently erythromycin is the drug of choice, but does not eliminate the carrier state. Tetracycline or ciprofloxacin are alternatives.

PREVENTION\CONTROL: Vaccines provide partial protection of short duration and routine use is not recommended. Control is aimed at isolation of affected individuals and personal hygiene. An increased awareness of the potential of infection due to Campylobacter is of primary importance. Thoroughly cook all foodstuffs derived from animal sources, particularly poultry. Recognize, prevent, and control Campylobacter infections among domestic animals and pets. Wash hands after handling poultry and animal feces. Protective clothing, sanitation, and personal hygiene important

BIOSAFETY LEVEL: BL-2

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