

Presence of *Brachyspira aalborgi* and *B. pilosicoli* in Feces of Patients with Diarrhea

Anaerobic intestinal spirochetes of the genus *Brachyspira* are important enteric pathogens in animals, but they have not been extensively studied in humans. The presence of a layer of spirochetes attached by one cell end to the colorectal epithelium is known as intestinal spirochetosis (IS) (4). The clinical significance of this colonization is uncertain, but it has been linked to chronic diarrhea and other abdominal complaints (3). Two species, *Brachyspira pilosicoli* and *Brachyspira aalborgi*, have been associated with human IS (7).

In a study of Dutch patients with gastroenteritis, DNA was extracted from feces by using guanidinium thiocyanate and silica and used for PCR detection of enteric pathogens (2). In 61% of cases, no known etiologic agent could be detected. Here, DNA samples from a subset of 182 of these samples, of which 89 came from patients with chronic diarrhea and 93 from patients with short-term diarrhea (less than 15 days) and in which no other pathogen could be detected, were subjected to PCR based upon the 16S rDNA sequences of *B. aalborgi* and *B. pilosicoli* (8).

No sample was PCR positive for *B. pilosicoli*, but two (1.1%), one from each category, were positive for *B. aalborgi*. Patient 1 was a 21-year-old female with abdominal pain and cramps, with frequent stools containing mucus. Symptoms had persisted for 21 days. The patient had traveled to Turkey and Jordan in the week before the onset of symptoms. She owned a cat and kept poultry. Patient 2 was a 34-year-old female with abdominal pain and cramps, frequent stools, and vomiting. Symptoms had persisted for 9 days. The patient had drunk raw milk in the week before onset. She owned a cat and a rabbit. Both patients had another person in the household with diarrhea and vomiting in the week before the onset of symptoms.

The overall prevalence of *B. aalborgi* that was found (1.1%) was generally consistent with results for histologic prevalence studies of intestinal spirochetes in biopsies from patients in Western countries (6), apart from presence in human immunodeficiency virus-positive patients and homosexual males, who are commonly (~30 to 50%) colonized by *B. pilosicoli* (10). The prevalences found may have been underestimated as a result of using a suboptimal method for DNA extraction and/or because of the relatively poor detection limits of the PCRs on feces (8). Nevertheless, the study suggests that intestinal spirochetes are not common in the feces of Western patients who have diarrhea but no other identified pathogens. The relationship between fecal shedding of intestinal spirochetes, diarrhea, and histologic IS remains unknown.

There were several potential sources of infection for the patients. Patient 1 may have become infected while traveling overseas. The prevalence of *B. aalborgi* in Middle Eastern countries has not been investigated, although carriage rates for

B. pilosicoli of ~27% have been found in Oman (1). Both patients had contact with various animal species. While *B. aalborgi* has only previously been isolated from humans and nonhuman primates (5, 9), intestinal spirochetes have been observed in the feces of many animal species. Unfortunately, because only two colonized individuals were identified, no reliable epidemiological analysis of potential risk factors could be made. Further studies are warranted.

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Andrew S. J. Mikosza
 David J. Hampson*
 School of Veterinary and Biomedical Sciences
 Murdoch University
 Murdoch, Western Australia 6150, Australia

Marion P.G. Koopmans
 Yvonne T. H. P. van Duynhoven
 National Institute of Public Health
 and the Environment
 Bilthoven, The Netherlands

*Phone: 61 08 9360 2287
 Fax: 61 08 9310 4144
 E-mail: D. Hampson@murdoch.edu.au