Concurrent Infection in a Dog and Colonization in a Child with a Human Enteropathogenic *Escherichia coli* Clone

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Pets can be natural reservoirs of several organisms potentially able to cause disease to humans, who, in turn, may also be carriers of countless infectious agents specific for animals. Children are central players in this cross-transfer game in view of their frequent nonobservance of proper hygiene habits. Human adults and animals are immune to enteritis caused by enteropathogenic *Escherichia coli* (EPEC), a common agent of infantile diarrhea in some developing countries (10). EPEC hallmarks are the abilities to express localized adhesion (LA) to epithelial cells and to induce cytoskeletal rearrangements resulting in histopathological alterations known as attaching and effacing in these cells (9). The LA is dependent on the expression of multiple adhesins, among which the plasmid-encoded bundle-forming pilus (BFP) is the best characterized. EPEC identification can be performed by the detection of the gene for the structural subunit of BFP (*bfpA*) and the *E. coli* attaching and effacing (*aee*) genes. Typical EPEC strains belong to a restricted number of O:H serotypes representing natural *E. coli* clones (3). Although the above features have been identified in clinical isolates of *E. coli* from dogs, the association of typical EPEC with canine enteritis and the recognition of pet dogs as reservoirs of the organism are still controversial (10, 12). Here we report an observed similarity between *E. coli* isolates from a 3-year-old healthy child and her 3-month-old diarrheic pet dog which tested negative for parvovirus, rotavirus, and *Cryptosporidium, Salmonella*, and *Shigella* organisms. Three isolates out of five bacterial colonies picked on MacConkey agar from both the dog and the child’s stool culture were identified as *E. coli*. The six isolates were nonmotile, did not produce gas from glucose, and were unable to decarboxylate lysine. When submitted to serotyping (4) with antisera not producing a positive result for EPEC is not a surprise, since she belongs to an age group in which humans are immune to EPEC infections. Although this is a single case report, the results presented seem to suggest that pet dogs may be not only carriers but also susceptible hosts of typical EPEC strains. Yet, in order to validate this hypothesis, the study should be expanded, with the survey of a larger number of animals, which must also be evaluated for symptoms of diarrhea and whose stools should be tested periodically for the presence of EPEC.

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