Humans

Intestinal spirochaetosis (IS) in humans is caused by *Brachyspira* spp. The significance of the infection is controversial, yet it has been associated with chronic diarrhoea and other abdominal complaints (Gad et al., 1977; Douglas & Crucioli, 1981; Crucioli & Busuttil, 1981; Rodgers et al., 1986; Lee & Hampson, 1994; Gebbers & Laissue, 1994). The species hitherto identified in humans are *B. pilosicoli* (Trott et al., 1996b) and *B. aalborgi* (Hovind-Hougen et al., 1982). The former has been identified in many animal species including swine (Lee & Hampson, 1994; De Smet et al., 1998; Duhamel, 2001), whereas *B. aalborgi* has only been reported in humans, non-human primates and opossums (Duhamel, 2001; Munshi et al., 2003a).

Pettersson et al. (2000) defined *B. aalborgi*-like spirochaetes in humans as members of the *Brachyspira*-lineage, which includes three clusters where the type strain of *B. aalborgi* (513A^-) belongs to cluster one. Currently deposited 16S rDNA sequences (GenBank) of the *B. aalborgi*-lineage isolates indicate that only strains from cluster one have been cultured. The species of *Brachyspira* found in humans seems to be related to geographic areas. Both *Brachyspira* spp. have been found worldwide. However, recent studies indicate that *B. pilosicoli* is a more common finding in developing countries, native populations in Australia along with some Asian countries and homosexual males while detection of *B. aalborgi* seems to be less dependent of population in study (Kraatz et al., 2001; Mikosza & Hampson, 2001; Calderaro et al., 2003; Brooke et al., 2003a; Munshi et al., 2003b). The prevalence of IS in humans is reported as low in western countries, e.g. between 2.5 and 5 % in humans undergoing colonoscopy (Nielsen et al., 1983; Lindboe et al., 1993; Abrams, 1998; Lindboe, 2001). Homosexuals and HIV infected humans are considered to be risk groups with an IS prevalence of 21-53% (McMillan & Lee, 1981; Tompkins et al., 1986; Käsbohrer et al., 1990; Law et al., 1994; Trivett-Moore et al., 1998).

Most known species of *Brachyspira* can be isolated on selective media designed for *B. hyodysenteriae*, whereas spirochaetes of the *B. aalborgi*-lineage demand specific selective agar with fewer antibiotics (Hovind-Hougen et al., 1982; Kraaz et al., 2000, Calderaro et al., 2003; Brooke et al., 2003b). Moreover, this spirochaete is a very slow growing and fastidious microbe and so far only two *B. aalborgi*-lineage strains have been isolated from human faeces (Calderaro et al., 2003; Brooke et al., 2003b). Human IS is usually an accidental histological finding in patients who undergo colonoscopy for diarrhoea or other reasons. Culture and isolation of spirochaetes are not routinely performed.

References


