

## 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 & Busuttill, 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<sup>T</sup>) 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; Kraatz *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.

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