

Achromobacter xylosoxidans


Introduction

With the widespread use of antibiotics and dramatic improvement in patients survival, newer organisms, such as Stenotrophomonas maltophilia (Denton et al, 1996; Denton et al, 1998; Talmaciu et al, 2000; Krzewinski et al, 2001), Achromobacter xylosoxidans (Dunne & Maisch, 1995; Krzewinski et al, 2001; Tan et al, 2002) and nontuberculous mycobacteria (Tomashefski et al, 1996; Torrens et al, 1998; Olivier et al, 2003) are becoming more widespread. The reasons for their emergence are complex but may relate to the selective pressure exerted by repeated exposure to antibiotic therapy, improved laboratory isolation techniques and enhanced reporting. All may be associated with either simple colonisation or respiratory exacerbations in those persistently colonised with large numbers of these organisms.

Achromobacter xylosoxidans

Achromobacter xylosoxidans, previously named Alcaligenes xylosoxidans is a motile, gram-negative bacillus which is capable of causing infection in patients with cystic fibrosis (CF). The reported prevalence for A. xylosoxidans in CF Centres is lower than that for Stenotrophomonas maltophilia, with rates usually less than 10%, although this appears to be rising (Tan et al, 2002; Lambiase et al, 2006; Ronne Hansen et al, 2006; De Baets et al, 2007). Little is known regarding routes of acquisition, although there are reports of cross-infection between patients (Van Daele et al, 2005). Uncertainty still remains regarding its clinical significance. Tan et al investigated the impact of chronic A. xylosoxidans infection in 13 patients and found no evidence of attributable clinical deterioration two years post-acquisition (Tan et al, 2002). De Baets et al evaluated eight patients with chronic A. xylosoxidans infection and, although they required more courses of antibiotics, the study found no evidence of accelerated decline in respiratory function (De Baets et al, 2007). However, Ronne Hansen et al did find that A. xylosoxidans was associated with declining respiratory function if there was a rapid rise in serum specific precipitating antibodies (Ronne Hansen et al, 2006). A. xylosoxidans is often multi-resistant and clinical data are lacking regarding optimum therapy. In-vitro data suggests that the most active agents may be minocycline, meropenem or imipenem, piperacillin-tazobactam ('tazocin') and chloramphenicol (Saiman et al, 2001).

Key points

• Uncertainty still remains regarding the clinical significance of Achromobacter xylosoxidans

• A. xylosoxidans is often multi-resistant and clinical data are lacking regarding optimum therapy

References


Copyright © cysticfibrosismedicine.com