10. TREATMENT OF ACINETOBACTER INFECTIONS:

10.1 Monotherapy:

*Acinetobacter* spp. is increasingly implicated in nosocomial infections, mostly affecting debilitated patients in ICUs, in whom such infections are associated with high mortality rates (Bergogne-Berezin and Towner, 1996). The administration of appropriate antimicrobial therapy to these patients is therefore essential. This organism under appropriate selection pressure can easily become resistant to newer β-lactams, aminoglycosides, and fluoroquinolones. Currently high proportions of acinetobacters exhibit cross-resistance to these drugs (Bergogne-Berezin and Towner, 1996; Nemec et al., 1999). Carbapenems usually show good activity, with imipenem being the most active against *A. baumannii* (Bergogne-Berezin and Towner, 1996; Chang et al., 1995). Imipenem monotherapy has been proved very effective in one study (Muller-Serieys et al., 1989). However, outbreaks due to imipenem-resistant strains are now being reported increasingly (Tankovic et al., 1994; Brown et al., 1998; Bou et al., 2000; Manikal et al., 2000). Although, a single study from Greece reported a pseudo-outbreak of imipenem-resistant *A. baumannii*, which was due to erroneous susceptibility results, obtained from rapid automated system (Tsakris et al., 2000). Since most developed nations adopt automated systems for antimicrobial susceptibility testing, possibility of false resistance reporting cannot be ruled out.
Nevertheless multiple-resistant *Acinetobacter* are now commonly being reported worldwide (Bergogne-Berezin and Towner, 1996; Vila, 1998).

Thus, very few of the major antibiotics are now reliable and effective for the treatment of severe nosocomial *Acinetobacter* infections. In particular it is very difficult to treat patients admitted to ICUs. β-lactam antibiotics can be used only after in vitro susceptibility testing has been performed. An interesting study from India suggests an alternative way to meet the growing problem of multiple resistance in *Acinetobacter* by using Ayurvedic medicine. Plasmids that were conferring resistance to clinical isolates of *Acinetobacter* were successfully eliminated by plumbagin in this study (Chopade et al., 1994a). Therefore, elimination of resistant plasmids by curing agent like plumbagin can be of considerable significance in chemotherapy.

10.2 Combination Therapy:

Ticarcillin, often in combination with sulbactum, ceftazidime, or imipenem may be of useful choice. Aminoglycosides can be sometimes used successfully in combination with an effective β-lactam. Other combinations proposed were β-lactam with a fluoroquinolone or rifampin.

In a survey conducted in France, the first line therapy for *Acinetobacter* infections included amikacin, imipenem, ceftazidime, or a quinolone (Joly-Guillou et al., 1992). In 56% of cases, imipenem was prescribed either as a single agent or in combination with amikacin (18%). Ceftazidime along with amikacin was given in 17% of cases and amikacin alone was used in 26% of cases. For second-line therapy