INTRODUCTION

Chemotherapy for childhood cancers is one of the great successes of modern medicine and the overall survival is now over 80% (***Sankila et al; 2006***). However myelosupression is a consequence of virtually all chemotherapy regimes and profound neutropenia is a major risk factor for overwhelming bacterial infection (***Bodey et al; 1966***).

The importance of early empiric treatment of fever in reducing mortality from bacterial infection was established over 30 years ago (***Schimpff et at; 1971***) and remains the standards of care for the management of febrile neutropenia (***Hughes et al; 2002***).

The prompt use of broad spectrum intravenous antibiotics in febrile neutropenic patients results in 99% survival (***Baorto et al., 2001 and Hann et al., 1997***).

Although as many as 25-30% of the febrile neutropenic population can be considered as low risk and managed with oral antibiotics as outpatients (***Mullen et al., 1999***), the majority cannot be managed in that way.

The relative frequency of different organisms in causing bacterial infection varies with time period and geographical location. In the 1970s gram negative organisms were the most common but by the 1990s coagulase negative staphylococci had become the most frequently isolated. Gram negatives are once again rising (***Zinner et al., 1999; Kanamaru et al., 2004 and Greenberg et al., 2005***).

The overall mortality of children with febrile neutropenia varies from 1% to 3.9% (***Hann et al., 1997; Baorto et al., 2001; Santolaya et al., 2001 and Basu et al., 2005***).

The mortality from invasive bacterial infection can be as high as 15% (***Hallahan et al., 2000***). Studies of immunocompromised patients needing pediatric intensive care units (PICU) care has reported that 43% of the mortality was due to invasive bacterial infection. Patient admitted to (PICU) with sepsis and positive culture showed a mortality of 31% (***Hallahan et al., 2000***).

More recent studies have reported far lower mortality in this cohort of patients which might reflect changing admission criteria and improved availability of PICU (***Fiser et al., 2005***).