Introduction

Acute lymphoblastic leukemia (ALL) is the most common malignancy in children, representing nearly one third of all pediatric cancers, and about 75% of pediatric acute leukemias **(DiAngio, 2001).**

Febrile neutropenia (FN) is one of the most serious hematologic complications seen in cancer patients receiving chemotherapy. FN is sometimes life-threatening, and immediate administration of empiric,broad-spectrum antibiotics is required **(Park et al., 2010).**However, Not all patients with FN have the same risk and should be classified according to risk level **(Klastersky et al., 2000).**Infectious complications during neutropenia account for about 70% of fatal complications in patients with acute leukemia **(Buchheidt et al., 2003).** Bacteremia and fungemia are the most commonly documented infections in hematological patients undergoing chemotherapy; they thus have great clinical and prognostic significance **(Fatkenheuer et al., 2003).** However,fever and neutropenia can also result from other causes,for which no antibiotic treatment is needed **(te Poele et al., 2009).**

Despite significant advances in supportive care, infection remains second only to malignancy as a cause of death in pediatric oncology patients, and infection accounts for a large fraction of treatment-related costs **(Bailey et al., 2009).** Bacteria are responsible for most life-threatening complications. Invasive fungal infections are also a serious risk for morbidity and mortality in this population **(Bailey et al., 2009).**

Standard therapy for acute lymphoblastic leukemic patients with absolute neutrophil count (ANC) less than 500 cells/mm^3 has traditionally been hospital admission for administration of broad-spectrum intravenous antibiotics until the patient is afebrile and the ANC has recovered **(Klaassen et al., 2000).** In the past decades attempts have been made to stratify the heterogeneous group of pediatric cancer patients with fever and neutropenia into high- and low-risk groups for bacterial infections or infectious complications. Strategies for risk assessment have resulted in treatment regimens with early discharge or even no hospital admission at all, and/or treatment with oral or no antibiotics **(te Poele et al., 2009).**

Outpatient treatment of FN potentially offers several advantages, including decreased use of health care resourses and improved patient quality of life. In addition, decreasing the time spent in the hospital **(te Poele et al., 2009).**