INTRODUCTION

Leukemia is the most common childhood cancers; leukemia accounts for about one third of pediatric malignancies. Acute lymphoblastic leukemia (ALL) represents approximately 75% of all cases in children, and has a peak incidence at age of 4 years. Acute myelogenous leukemia (AML) accounts for approximately 20% of leukemia, with a stable incidence from birth through age of 10 and increase slightly during the teenage years (***William , et al :2000).***

The study of ALL also has provided significant insights into the mechanisms of normal and abnormal hematopoietic development.

During the last decade, two thirds or more of children with ALL can be cured with contemporary treatment plans but only 40% of newly diagnosed children with AML can be expected to be cured. The challenge for the next decade is the development of novel therapeutic strategies for the treatment of childhood AML (***Pui-c :1995***).

This remarkable success began with the identification of effective antineoplastic drugs in the late 1940s and 1950s, followed by the development of combination chemotherapy and subclinical central nervous system (CNS) leukemia therapy in the 1960s. Refinements in the design and analysis of clinical trials during the 1970s led to the recognition of clinical and laboratory features that connote a poor prognosis, setting the stage for risk-directed therapy ***(Ching-Hon :1997).***

In the 1980s, the following became clear: certain antileukemic agents, as well as cranial irradiation, can produce serious late sequelae; many leukemias arise from non-random cytogenetic abnormalities with therapeutic implications; intensive chemotherapy can abolish the prognostic significance of certain adverse features; and some cases of

refractory leukemia can be cured with allogeneic hematopoietic stem cell transplantation. Together, these discoveries resulted in greater

Refinement of risk-oriented therapy that, in time, advanced cure rates to their present high levels.

We recently entered the era of molecular medicine, in which genetic probes are being used to recognize new disease categories and improve treatment selection. Ultimately, dissection of leukemia at the molecular level should pinpoint sensitive and highly specific targets for therapeutic intervention, leading to treatments that are both safe and uniformly effective ***(Ching-Hon :1997).***

A number of treatment approaches, including the development of bone marrow transplantation have been evolved in the setting of childhood leukemia treatment.

AIM OF WORK.

The aim of this essay is to throw light on recent advances in the management of acute leukemias in children.