Introduction

Recent development in acute myelogenous leukemia therapy

Leukemia is one of the most important haematological malignancies and it affects myeloid and lymphoid systems. Leukemia is classified either acute or chronic and its etiology is unknown but several factors have been associated (radiation – chemicals ,drugs as melphalan – genetic and viruses as adenovirus).

Acute Leukemias are predominantly diseases of adulthood, increasing in incidence with advancing age. AML has a median age of presentation of 65years and its clinical picture depend on infiltration of malignant cells to bone marrow, different organs or due to immune deficiency**.(Ross et al ,2002)**

Aim of treatment in AML:-

1. Destroy Leukemik cells and produce complete remisson .
2. To accomplish this goal, multiple courses of chemotherapy in AML and very prolonged chemotherapy lasting 2 – 3 years are necessary in ALL. (**Advani et al,2004**)

Great advances in the treatment of AML in the past 10 years, for instances :-

1- Intensive induction of chemotherapy using 7 days course of cytarabine and daunorubicine or amascrine produce remission in 60% to 85% of patients , median remission duration is 9 – 16 months .

2- Bone marrow transplantation is a useful therapeutic modality capable of achieving long term survival in some circumstances in which chemotherapy is relatively ineffective.(**Chauncey et al, 2005**)

3- Recent progress in the treatment of AML which was almost fatal 30 years ago. If relapse occurs within 1 – 2 years, this reflects a lack of progress in developing effective post remission therapy.

4- Future progress in the treatment of AML await the development of more sensitive methods for detecting residual Leukemia , more effective use of current therapeutic modalities and the introduction of new effective drugs .

(**Mayer et al,2005**)

So we can say that recent progress has peen made in several areas in the treatment of AML (prognostic factors , allogenic bone marrow transplantation and other new advanced therapies) .

- Cord blood has also been established as a suitable source for hematopoietic transplantation in AML so multiple new agents with tremendous potentials are in development and clinical trials.(**Moore et al,2004**)

From this progress in the treatment of AML the using of:

1. Recombinant granulocyte colony stimulating factor in AML this type of treatment reduce the duration of neutropenia but not alter the mortality rates.
2. Hematopoietic growth factors and its therapeutic effects in AML.
3. Nucleophosmin in AML (researches found that abnormal cytoplasmic localization of NPM and tumor genesis in AML) .(**Kolitz et al,2001**)
4. New progress in post remission treatment of AML to improve prognosis and outcome. These new regimens include (allogenic , autologous bone marrow transplantation and dose intensified chemotherapy) .
5. Autologous or allogenic bone marrow transplantation .
6. Using of up to date immuno-chemotherapy in the treatment of AML. (**Hosmer et al,2003**)

Aim of the work

The aim of this essay is to review the up-to-date literature about:-

1 . Recent advances in the treatment of AML.

2 . comparing the results of traditional old methods of treatment with the new ones.

1-*Introduction of AML*