Acute Promyelocytic Leukaemia (APL) in 19 Egyptian Patients

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Background

Acute promyelocytic leukemia (APL) is now the most curable subtype of **acute** myeloid leukemia in adults. All-trans retinoic acid (ATRA), which induces differentiation of the leukemic cells into mature granulocytes, represents the important advance. The incorporation of ATRA in induction results in a high complete remission rate (CR) and decreases the relapse rate compared with treatment with chemotherapy alone (**Martin S. Tallman, et al; 2002**).

Aim

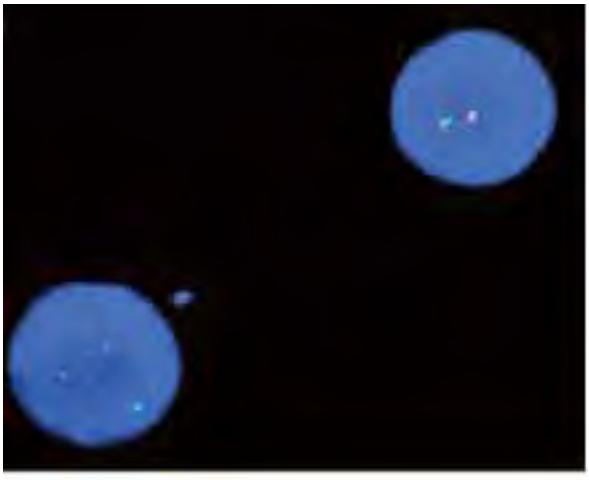
Evaluation of the effect of ATRA on the outcome of t (15:17) positive patients.

Patients and Methods

The diagnosis of APL was done according to the World Health Organization classification system .Morphological view confirmed the diagnosis of APL. The immunophenotypic features including human leukocyte antigen –DR ,CD 34,CD 13 and CD 33 (**Becton Dickinson, U.S.A)** were performed .We performed chromosomal analysis and fluorescence in situ hybridization (**FISH**) of the bone marrow cells at diagnosis, the probe used for FISH LSI PML/RARA dual color , dual-fusion translocation probe (**Vysis Inc., USA**). Ninghteen APL patients presented to our unit between 2005 and 2008, 9 Males and 10 Females; Median age 30, range (13 to 40). Seven patients were morphologically APL but were t (15:17) negative and were excluded. Twelve were t (15:17) positive and received **Induction** chemotherapy in the form of Adriamycin for 3 days combined with ATRA for 3 months. Patients who achieved CR received 3 cycles of **Consolidation** in the form of Adriamycin for 3 days every 3 weeks followed by **Maintenance** chemotherapy using methotrexate, 6-mercaptopurine and ATRA .Patients were kept under follow-up.

Results

We analyzed **12** APL patients receiving ATRA, 7(58.3%) achieved complete cytogenetic remission (CCR) after an average of 3 to 6 months of starting treatment and they are still under follow up, 2 (16.6%)patients died during the course of treatment and 3(25%) lost follow-up.



On the left PML/RARA fusion; on the right normal PML/RARA

Conclusion

Historically, APL was fatal for most patients. However, the introduction of ATRA as targeted therapy for APL has dramatically improved the outcome of this disease. With contemporary therapeutic strategies, it appears that a cure rate of more than 50% is a reasonable expectation. ATRA has most dramatically changed the clinical course of a disease from one that was highly lethal to one that now appears highly curable.