SUMMARY AND CONCLUSION

Summary and Concllusion

This present work was carried out to evaluated a new tumor marker (Thymdine Kinase) in the serum of patients with various types of leukemias. The correlation of thymidine kinase level with other clinical and laboratory findings at the time of diagnosis was also attempted, trying to assess their possible role in prognosis.

72 untreated cases suffering from acute and chronic leukemias were studied. These cases comprised 28 cases with ALL (23 child hood and 5 adulthood type), 21 cases with AML (6 childhood and 15 adulthood), 13 cases with CML and 10 cases of CLL, follow up of the level of TK was possible in 38 cases out of th 72 studied case this occurred during remission 20 cases (12 ALL, 7 cases of AML and one case of CML); 9 cases during relapse (4 ALL, 3 AML and 2 ABC on top of CML) and 9 cases during maintenance (6 ALL, 2AML, 1CML) 20 apparently healthy individuals were included as normal control.

Determination of thymidine kinase in serum was performed using 125_I ideodeoxy uridine (IduR) as a substrate *(Gronowitz et al., 1984)*. TK concentration in serum was measured by radio enzyme assay.

In the control group the TK level ranged between (5 - 80 μ/L).

The pre-treatment S-TK level was significantly elevated in leukemias.

In Acute lymphoblastic leukemia pretreatment high level of S-TK activity was detected in children and adults with mean ± SD 115.4. ± 11.1 and 104.6 ± 19.1 respectively. No correlation was found between S-TK level and prognostic factor such as age, sex total leucocytic count but we canot correlate sTK value and other prognostic factors such as

orgnomegally, FAB morphology and C.N.S infiltration due to the limited number of patients in our study.

As regards to acute myeloid leuckemia high S-TK value was detected in adults and children with a mean ± SD 106.6 ± 15.7 and 99.3 ± 22.8 U/L respectively.

The activity of S-TK level was related to the status of the disease. In the whole group of patients there was astriking differece in S-TK level between the pretreatment and remission or maintenance phases. The S-TK level in patients with leukemia who had achieved complete remission was significantly lower than that of cases that had only partial remission.

On the contrary there was no statistically significant difference between the pretreatment and relapse levels of S-TK. So S-TK level was elevated in pretreatment and relapse and was depressed in remission and maintenance phase.

In CML the mean ± SD pretreatment S-TK level was 120.5 ± 2.5 with highly significant difference of S-TK value in comparison to the control group. S-TK level was elevated during ABC but not ofter treatment.

In CLL there was elevation of pretreatment S-TK level in all studied cases that did not receiveing therapy. On the contrary S-TK level was not elevated in cases that were treated before.

So, the detection of high level of S-TK level in leukemias and other malignancies reflect the non-specificity of TK to leukemia and limits its usefulness in diagnosis. With regards to the assessment of prognosis TK is considered to be an oncofetal tumor associated isoenzyme that serves as a valuable marker in follow up and monitoring the response to treatment and effect of therapy and also for detection of early recurrence of the

disease.

The role of TK in the pathogensis of human neoplasia remains unclear, however, the detection of elevated TK level in the majurty of investigated sera of patients with leukemias may be due to increase in the TK-gene production in the form of growth factor or growth factor receptors, or due to mutation on the TK locus. Deletion, chemicals or ioinsed irradiation all may act indirectly as mutagen by stimulating cellular proliferation.