S U M M A R Y

In this study 91 cases were studied. All cases were diagnosed for the first time, were not in relapse and received no treatment before. All cases were classified according to "FAB" classification into L_1, L_2 and L_3. The study also included another group; the LS group (cases diagnosed as leukemic phase of lymphosarcoma).

The following tests had been done:

A morphometric and morphologic study was done, counting one hundred cells, by a special micrometer. This study include:

1. Cell size (total cell diameter).
2. Nucleo-cytoplasmic ratio (N/C ratio).
3. Nuclear regularity.
4. Nucleoli.
5. Chromatin pattern.
6. Nuclear membrane.
7. Amount of cytoplasm.
8. Cytoplasmic basophilia.
9. Cytoplasmic vacuoles.

I- Some clinical manifestations were recorded as:

1. Degree of splenomegally.

2. Degree of hepatomegally.
3. Anaemia.
4. Lymph node enlargement.
5. Fever.
6. Bleeding.

II- Laboratory tests were carried out such as:

1. Haemoglobin.
2. Red blood cell count (RBC count).
3. White blood cell count (WBC count).
4. Absolute blasts in peripheral blood.
5. Blast percentage in bone marrow.

Another four cytochemical stains were done; Sudan black B; periodic acid Schiff (PAS); acid esterase and acid phosphatase, to help to identify and characterize lymphoblasts. The percentage positivity and total score were done. Not all the cases were positive, and so they were of no help to define the negative cases.

Doing the percentage positivity and total score, it was found that:

1. Acid esterase and PAS; there was a certain degree of significant dependence between them in LS group.
2. A significant correlation has been found also between acid esterase and acid phosphatase in L_2 group.

3. L_2 group and LS group had the highest positivity of acid esterase. This cytochemical similarity may denote possible relationship between or origin of L_2 and LS.

From the morphometric and morphologic study done, two mixed types were observed:

1. (L_1 - L_2) new type which has features midway L_1 and L_2.
2. (L_2 - L_3) new type which has features midway L_2 and L_3.

So a new proposal of adding two mixed types to the "FAB" classification; the (L_1 - L_2) and (L_2 - L_3) as supported by morphologic, cytochemical, clinical and prognostic criteria elecited in this study.