

Thesis Title : Application of scanning electron microscopy
on diagnosis of acute leukemia : A study
in relation with FAB classification
and cytochemistry

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ABSTRACT

Cell surface appearance demonstrable by scanning electron microscopy (SEM) was studied in various types of FAB classification of acute leukemia. Leukemic cells derived from each lineage showed typical surface appearance. Profile of ridges were generally seen on myeloblasts and promyelocytes, the cells mostly found in M_1 , M_2 and M_3 subtypes of FAB classification. Monoblast of M_5a subtype showed blunt ridges and M_5b showed a number of ruffles. The M_4 subtype which was myelomonocytic leukemia had the surface appearance resembling both myeloblast and monoblast. Such combination of surface morphology of M_4 leukemic cell was found either on separate cells or on the same cells. Lymphoblasts from acute lymphoblastic leukemia (L_1 & L_2) were small spherical cells showing wrinkle surface. However, L_2 cells showed more distinctive wrinkling. These typical appearance of leukemic cells help identify subtype of leukemia.