P29. **DIAGNOSTIC DIFFICULTIES IN ACUTE LEUKEMIAS.**

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Background:

Laboratory diagnosis of acute leukemia in hematologic modern practice is based on guidelines that require the availability of immunophenotypic examinations, cytogenetic and molecular biology exams. The majority of cases of acute leukemia belong to a specific lineage origin, either lymphoid or myeloid, classification based on morphologic features and cytochemical and immunophenotypic profile of the blast cells. A minority of acute leukemias however, show no clear evidence of differentiation along a single lineage. These are now classified under acute leukemias of ambiguous lineage and there are acute leukemia blasts that express antigens of both myeloid and lymphoid. There are acute leukemia in which there are two distinct populations of blasts, each expressing antigens of a different lineage, referred to as "bilineal" leukemias or a single blast population expressing antigens of multiple lineages, referred to as "biphenotypic" acute leukemias.

Methods:

We report 7 cases of acute leukemia evaluated in our clinic during 2013 who had difficulty in diagnosis and the screening line. These were assessed by morphological, immunohistochemical, immuno-phenotypic, cytogenetic and molecular biology exams.

Results:

We report two cases of acute myelogenous leukemia associated with myelodysplasia in patients younger than 30 years with no history of exposure to toxic radio / chemotherapy, one being framed initially as a secondary leukemoid reaction and the other one as a myelodysplastic syndrome. A case of B-cell acute lymphoblastic leukemia in a female patient aged 49, known to our clinic with a diagnosis of myelodysplasia with excess blasts of myeloid line. Another case was of a male patient aged 34 with pulmonary tuberculosis framed initially as hairy cell leukemia and subsequent investigations concluded that the diagnosis was billinial acute leukemia. Also we report a case recorded in our clinic with the diagnosis of acute myeloid leukemia FAB M0, which is in remission for 5 years and who relapsed with acute erythroleukemia. Also, a patient with pancytopenia and colonic polyps, which was suspected of colon cancer and the biopsy diagnosis was myeloid sarcoma and bone marrow puncture put the diagnosis of acute myeloid leukemia FAB M1. And finally, a patient from the dermatology department where he was initially addmited for bullous pemphigoid, but skin biopsy ruled the diagnosis of monoblastic sarcoma.

Conclusions:

Given the polymorphism of acute leukemias, we emphasize the overwhelming importance that the modern methods of diagnosis have in accurately identifying the phenotypic line and the prognostic factors in acute leukemia.