## Epitaph for erythroleukemia

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Erythroleukemias are acute leukemias characterized by erythroid hyperplasia with an excess of myeloblasts and/or proerythroblasts.

The criteria suggested by the French American British (FAB) revised proposal in19851 to diagnose Acute Erythroleukemia are erythroid hyperplasia, exclusion of proerythroblasts from the blast count and enumeration of myeloid blast as percentage of the Non Erythroid Cells (NEC) marrow component. The FAB classification de facto made impossible the diagnosis of erythroleukemia in those cases in which the neoplastic proliferation involves exclusively the erythroid lineage, the Pure Erythroid leukemia. Presently those two subtypes are respectively identified as M6a and M6b.

The new WHO classification of hematological malignancies2 includes erythroleukemia and its two subtypes among the group named Acute myeloid leukemia not otherwise categorized, It mantains the diagnostic FAB criteria except for the blast percentage required for the diagnosis, which has been reduced to at least 20% in the marrow or in the peripheral blood. Looking at the erythroid/myeloid erytroleukemia, the M6a subtype, the WHO document indicates among the morphological differential diagnosis, the RAEB and the AML with maturation with increased erythroid precursors. Differentiation is based on the NEC blast percentage. Finally differential diagnosis from the Acute myeloid leukemia with multilineage dysplasia should be performed on the presence of dysplasia involving ≥50% of myeloid or megakaryocyte-lineage cells.

With the aim of assessing agreements and/or discrepancies among these two leukemic classifications, we have reclassified according to the WHO proposal, 13 cases of Acute Myeloid Leukemia previously classified as FAB-M6 from 1996 to 2002 in our hematological department. All patients were adult and had an aggressive clinical course, which is usually associated with erythromyeloid leukemia.

Morphological study has been carried out separately by two different hematologists, the authors, on at least two smears of bone marrow aspirates stained with May-Grünwald-Giemsa. Samples were assessed for lineage representation, blast percentage and presence or absence of dysplasia involving one or both lineages out of the erythroid one. Each lineage dysplasia was defined by ≥50% of dysplastic lineage cells. Marrow differential has been performed by the two observers on 500 cell count, while blast percentage has been detected on the NEC marrow component, because all patients had erythroid hyperplasia.

For all the 13 cases both observers reached full agreement in the final diagnosis.

According the WHO classification all cases have been classified as Acute myeloid leukemia with multilineage dysplasia. In addition to erythroid dysplasia, 9 patients showed megakaryocitic dysplasia, while 4 patients had a trilineage dysplasia.

This study suggests that the most cases of FAB-M6 leukemia, a rare leukemia of adult with a poor prognosis and usually associated to complex caryotypes with multiple structural abnormalities, are currently definitevely included among the WHO group of Acute myeloid leukemia with multilineage dysplasia.

The introduction of the 1985 FAB criteria had determinated an increase of M6a diagnosi.3 The WHO classification will probably cause its disappearance as a separate group.

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### References

1. Bennett JM, Catovsky D, Daniel MT, Flandrin G, Galton DAG, Gralnick HR, Sultan C. Proposed revised criteria for the diagnosis of acute myeloid leukaemia. Ann Int Med 1985, 103:626-29.
2. Harris NL, Jaffe ES, Diebold J, Flandrin G, Muller-Hermelink HK, Vardiman J, Lister TA, Bloomfield CD. The World Health Organization classification of hematological malignancies report of the Clinical Advisory Committee Meeting, Airlie House, Virginia, November 1997. Mod Pathol. 2000 Feb;13(2):193-207
3. Bloomfield CD, Brunnig RD. The revised French-American-British classification of acute myeloid leukaemia: is new better? Ann Int Med 1985,103:614-616