Practical application and clinical impact of the WHO histopathological criteria on bone marrow biopsy for the diagnosis of essential thrombocythemia versus prefibrotic primary myelofibrosis

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Résumé en anglais	**Aims:** To evaluate the feasibility of the histopathological diagnosis of prefibrotic–early primary myelofibrosis (PM) as described in the World Health Organization (WHO) classification and to evaluate the clinical implications of prefibrotic–early PM in a series of patients previously diagnosed as having essential thrombocythemia (ET) according to the Polycythemia Vera Study Group criteria. **Methods and results:** WHO criteria were applied to bone marrow biopsy specimens by two pathologists who then reclassified 127 cases as 102 ET (80.3%), 18 prefibrotic–early PM (14.2%) and seven fibrotic PM (5.5%). In 45 cases (35%), the final diagnosis was only reached by consensus. The megakaryocytic criteria that best discriminated between ET and prefibrotic–early PM were an increased nucleo–cytoplasmic ratio, presence of cloudlike nuclei, hyperchromatic-dysplastic nuclei, paratrabecular megakaryocytes and tight clusters. A histological score discriminated between ET (score ≤3) and PM (score ≥6), but 21 cases showed an intermediate ambiguous score. No significant differences were observed at diagnosis and at follow-up (median time 93 months) for thrombosis, major haemorrhage, laboratory data, transformation into overt myeloid metaplasia and survival. **Conclusions:** The distinction between ET and prefibrotic–early PM is impaired by subjectivity in pathological practice and is of questionable clinical relevance, at least when considering individual patients.
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