

New Insights in the Understanding of Myelo-Dysplastic Syndrome (MDS)

E.C. Gordon-Smith

Department of Haematology, St Georges Hospital Medical School, London, UK

Abstract

MDS covers a wide spectrum of disease in which the pathogenetic effects of different somatic mutations in the haemopoietic system are only just becoming delineated. The FAB classification based upon morphology served well in a clinical setting for many years but took no account of cytogenetic changes. The new WHO classification is an interim step towards an integrated cytogenetic, morphological and clinical system, not universally accepted as the definitive system. In such a diverse group of disease it is not easy to provide a unified theory of the pathophysiology. In this discussion the changes that accompany bone marrow failure in the MDS setting will be presented and the relationship to aplastic anaemia (AA) considered. MDS disorders are thought to arise by stepwise genetic progression. The most common cytogenetic abnormalities associated with hypoplastic MDS are 7- and 8+ conditions. In more malignant MDS more complex chromosome abnormalities are found, particularly translocations. The presence of monosomy 7 clones emerging in AA has long been recognised as a possible prelude to the development of MDS, particularly by workers in Japan. Occasionally, however, even this abnormal clone may disappear from AA and MDS and remission occur. The significance of trisomy 8 is less well defined. It is found in both myeloid and lymphoid acute leukaemias and chronic myelo-proliferative disorders. In the setting of hypoplastic MDS/AA the abnormality appears to be related to a good response to immuno-suppression, remission being cyclosporin dependent. This observation emphasises the interesting overlap between hypoplastic MDS and AA in terms of immunological phenomena and response to immuno-suppressive therapy which occurs in both groups.
