

MYELODYSPLASTIC SYNDROME AND THROMBOCYTOSIS: A RANDOM ASSOCIATION?

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ABSTRACT

We describe a case characterized by the onset of bone marrow hypoplasia. After treatment with steroid and anabolic compounds, it evolved into a myelodysplastic syndrome (MDS) as demonstrated by morphological and karyotypic analysis. Despite the dysplastic nature of the disorder, a unique feature was the association with a high platelet count. The pathogenesis of the thrombocytosis could not be clearly identified. In fact, the course of the disease during our observation was complicated by severe infections that, together with therapy, could have played some role in stimulating thrombopoiesis. However, since MDS can precede or follow a chronic myeloproliferative disease, it is also possible that platelet elevation in our patient could be sustained by a primitive thrombocyte disorder.

Key words: myelodysplastic syndromes, thrombocytosis

Myelodysplastic syndromes (MDS), although classified into well defined entities,^{1,2} are a proteiform group of conditions that might affect any hematopoietic lineage. Chromosome analysis, as well as biochemical studies, have helped to indicate the clonal origin of these disorders. In most series reported to date, a chromosomal abnormal clone has been detectable in the bone marrow of 40-60% of patients with MDS unrelated to previous therapy³ that involves in half of the cases chromosomes 5, 7, 11, 12, 13 e 20.⁴ It has been estimated that 20%-40% of patients develops acute leukemia but MDS may also precede a chronic myeloproliferative disorder (CMD).^{5,6} On this regard, it is also well known that some MDS may present at onset as CMD and only later recognized as primary MDS.⁷ A recent report has suggested the possibility that these patients might constitute a distinct entity.⁶

Case report

A 62-year-old Caucasian woman was admit-

ted to our Department in November 1992 for a febrile state with dry cough and pharyngolaryngitis arises fifteen days before admission and treated with antibiotics (azitromicin followed by ceftazidime) with no result. Physical examination revealed a severe oral and rhinopharyngeal candidiasis; neither lymphadenopathy nor hepato-splenomegaly was detected, as confirmed by abdominal echography and CT scan. The complete blood count at admission revealed an important leukopenia and a macrocytic anemia: WBC $0.6 \times 10^9/L$ (neutrophils 6%, lymphocytes 87%, monocytes 2%), Hb 65 g/L, MCV 105 (reticulocytes $< 10^4/mm^3$), platelet count was $180 \times 10^9/L$. Bone marrow biopsy showed a marked hypoplasia with $< 1\%$ blasts and dysplastic features in all three lineages without myelofibrosis. Bone marrow aspirate was dry and chromosome study was therefore not performed. The patient was treated with betamethasone, danazol, nandrolone decanoate, and transfused with red blood cells. After 20 days, a raise in WBC, Hb and platelets was observed. Steroid and ana-

bolic compounds were stopped at the end of December. However, while WBC and Hb remained respectively around $2 \times 10^9/L$ and 110 g/L, platelet number progressively reached $1700 \times 10^9/L$ in January 1993. A new bone marrow aspirate documented the recovery from hypoplasia, the constant presence of erythroid and myeloid dysplasia, and a marked increment in megakaryocytes. Karyotypic analysis demonstrated a trisomy of chromosome 8 and a deletion of the short arm of chromosome 7 (p1-p3). The patient was then diagnosed as having refractory anemia (RA).

The high platelet count and the onset of symptoms related to platelet aggregation (a transitory ischemic attack with third cranial nerve paralysis and diffuse paresthesias ensued at the beginning of January 1993) unresponsive to their conventional inhibitors (aspirin and ticlopidin), prompted us to start hydroxyurea (1 g/day for one month) with immediate benefit. The clinical history was complicated in February 1993 by multiple brain abscesses (in the posterior left hemisphere) probably disseminated from a cutaneous lesion of homolateral forearm where *Proteus Mirabilis* was isolated. The patient was successfully treated with metronidazole, rifampicin, and pefloxacin for two months. It is noteworthy that since the end of antibiotic therapy and the resolution of brain abscesses until January 1994 platelet number remained below $400 \times 10^9/L$ without any specific treatment.

Discussion

We report the case of a patient who, after an onset of medullary hypoplasia, developed a MDS accompanied by a marked increase in platelet count. We cannot establish the nature of platelet elevation in this patient, insofar as intervening events might have influenced the course of the disease. In particular, it is possible, although unlikely, that anabolic steroids played a role in increasing thrombopoiesis; also, we cannot rule out that the infectious episodes might have determined the stimulus as described for other conditions⁸ and as suggested by the apparent resolution of thrombocyto-

sis after the cure of brain abscesses. Furthermore, although we found low platelet serotonin content – an element consistent with CMD⁹ – the lack of platelet granules in MDS¹⁰ does not allow us to use this finding as indicative of a primary thrombocytopenia. However, it is possible to hypothesize that, for its unusual clinical presentation and outcome, this case represents, according to what was recently proposed,⁶ an intermediate entity between MDS and CMD.

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