



PSEUDO-GAUCHER PLASMA CELLS IN THE BONE MARROW OF A PATIENT WITH MONOCLONAL GAMMOPATHY OF UNDETERMINED SIGNIFICANCE

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Bone marrow cells with the morphological characteristics of Gaucher cells, called pseudo-Gaucher cells, have been described in several hematologic disorders,¹⁻⁴ including multiple myeloma.⁵ These cells have been considered storage cells, as they do not directly belong to the proliferating cell clone. We describe the presence of atypical plasma cells, morphologically resembling Gaucher cells, in the marrow of a patient with monoclonal gammopathy of undetermined significance (MGUS).

The patient was a 73-year-old male with mild macrocytic anemia and a serum monoclonal (M) IgAk component. Clinical and laboratory findings did not support a diagnosis of multiple myeloma. A bone marrow aspirate and biopsy showed mild dyserythropoiesis and normal myeloid and megakaryocyte series. Plasma cells accounted for only 5% of total cellularity, but presented an atypical morphology, many of them having small nuclei and abundant cytoplasm, which frequently contained many vacuoles (Figure 1). Some cells had a pseudo-Gaucher appearance, since they reached a diameter of more than 50 μ , had a single small nucleus and a very large cytoplasm, completely filled with clear vacuoles (Figure 1). Many cells had intermediate features between small plasma cells with few cytoplasmic vacuoles and large pseudo-Gaucher cells. No data suggested the presence of an inborn error of metabolism. The plasma cell origin of pseudo-Gaucher cells was further supported by cytochemical studies showing cytoplasmic acid phosphatase positivity in pseudo-Gaucher cells, which was completely inhibited by the addition of tartrate, as in plasma cells of smaller size, and by immunohistochemistry on bone marrow sections, showing cytoplasmic immunoglobulins with κ light chain restriction. While plasma cells with atypical morphology, such as the mott cells, the flame cells, the morula cells, and the signet ring-like cells,⁵ can be found frequently in the marrow of patients with multiple myeloma, cells with Gaucher-like appearance have been only occasionally detected.^{6,7} As in

other patients with hematologic disorders,^{3,4,8} they have been considered marrow macrophages that ingest abundant material derived from tumor cell necrosis. However, in the present case, pseudo-Gaucher cells were observed in a patient with MGUS, a condition in which severe marrow cell necrosis is unlikely, and morphologic and immunohistochemical studies were clearly oriented to the plasma cell origin of pseudo-Gaucher cells. The cause of the atypical features of plasma cells remains speculative, but these features may represent the morphologic hallmark of a neoplastic process detected at an early stage of development.

References

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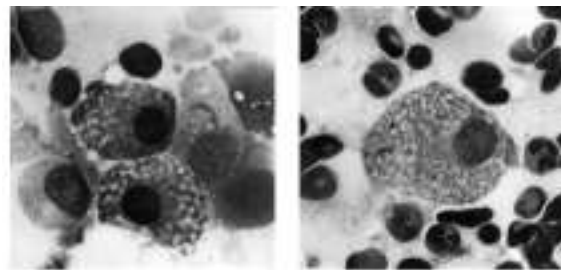


Figure 1. Medium-sized plasma cells with cytoplasmic vacuoles (left panel) and one large pseudo-Gaucher plasma cells (right panel) ($\times 1000$).