

Looks can be deceiving

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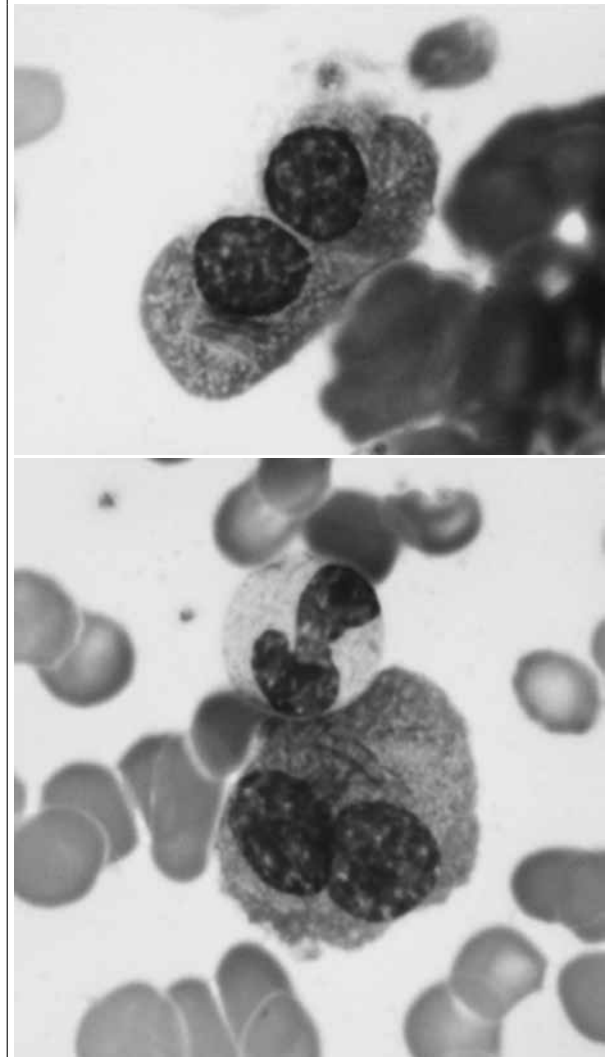
CASE REPORT

A 57-year-old man, with a 14-year history of IgA kappa monoclonal gammopathy of undetermined significance (MGUS), presented with anaemia, renal insufficiency and a rising serum IgA M protein. His laboratory results showed a haemoglobin of 6.3 mmol/l, thrombocyte count of $110 \times 10^9/l$, creatinine of 112 mmol/l and a IgA kappa M spike of 26 g/l. In *figure 1* the bone marrow aspirate is shown.

WHAT IS YOUR DIAGNOSIS ?

See page 153 for the answer to this photo quiz.

Figure 1. Bone marrow aspirate



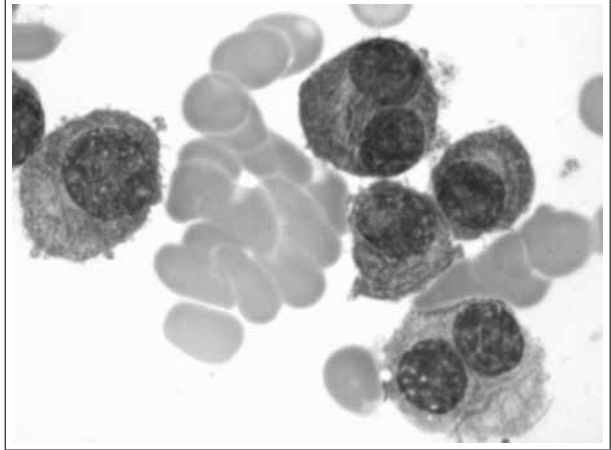
DIAGNOSIS

The bone marrow aspirate contained 50% plasma cells with the striking presence of abundant thick as well as slender Auer rod-like inclusions (*figure 1 and 2*) in most of those cells. Many looked like 'faggot cells' with a large number of rods. Less than 10% of the plasma cells had multinuclear forms. Otherwise, the marrow was normocellular and contained normal counts of white and red cell lines as well as megakaryocytes. Immunophenotyping of the aspirate revealed a cytoplasmatic-IgA+, cytoplasmatic-kappa+, CD38+, and CD138+ population. Trephine biopsy showed 75% CD138 and CD20 positive cells, which were kappa positive, consistent with the diagnosis of multiple myeloma.

Auer rods and faggot cells (cells containing multiple Auer rods which appear like a bundle of sticks) are usually associated with acute myeloid leukaemia, and considered pathognomonic for acute promyelocyte leukaemia (APL). However, in this case, the rods appeared in plasma cells and a diagnosis of symptomatic multiple myeloma was made.

Auer-like inclusions or pseudo-Auer rods have very rarely been reported in malignant plasma cells.^{1,2} They should not be confused with APL-associated faggot cells. When in doubt, immunophenotyping can be helpful. The pathophysiology of these inclusions has not been unravelled. It has been suggested that they consist of active lysosomal plasma cell enzymes. The prognostic value of this morphological variant is unclear due to rarity of the cases.¹

Figure 2. Bone marrow aspirate



The patient was considered unfit for intensive treatment due to comorbidities, and was started on melphalan, bortezomib, and prednisone. Unfortunately he was refractory to four cycles and has started second-line therapy with lenalidomide/dexamethasone.

REFERENCES

1. Hütter G, Nowak D, Blau IW, Thiel E. Auer rod-like intracytoplasmic inclusions in multiple myeloma. A case report and review of the literature. *Int J Lab Hematol.* 2009;31:236-40.
2. Parmentier S, Radke J. Pseudo-Auer rods in a patient with newly diagnosed IgG myeloma. *Blood.* 2012;119:650.