

## Images in Clinical Hematology

# Challenging the morphologist: IgM multiple myeloma with lymphoplasmocytic morphology



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A 84-year-old man presented with weakness, weight loss and lumbar pain from two weeks. He had history of dyslipemia and diabetes. Complete blood count showed: hemoglobin 119 g/L, leukocyte count  $4.7 \times 10^9/L$  and platelet count  $257 \times 10^9/L$ . Serum protein study: M-component of IgM nature 3.23 g/dL with IgG immunoparesis. Full body scan showed D8 and L1 vertebral crush.

Bone marrow cytology showed a massive infiltration (87 %) by plasma cells with coarse cytoplasm nearly similar to lymphoplasmocytes (Figure 1). Flow cytometry confirmed clonality of plasma cells with phenotype: CD38+CD138+CD19-CD45-CD20+CD56-CD27+CD81+CD117-cit-Kappa-citLambda+, and no lymphoid clonal population. FISH study displayed and t(11;14) and 1q gain. Mutation MYD88-LP by PCR was negative. Diagnosis of IgM multiple myeloma (MM) was made.

IgM MM is uncommon (less than 0.5 % of all MM cases). IgM MM is characterized by the proliferation of clonal plasma cells that produce the IgM monoclonal component

and, likely other MM types, symptoms of it. Sometimes clinical characteristics may overlap with other IgM related entities, Waldstrom Macroglobulinemia (MW) preferently, representing a challenge for clinicians. IgM MM is characterized by a proliferation of clonal plasma cells: CD38+, CD138+, CD20-, CD19- and usually CD56- and CD117-. In contrast MW clonal population is normally CD45+, CD19+, CD20+, CD22+, CD25+, CD27+, CD23-, CD5-, CD10- and CD138-. The presence of t(11;14) is shown in IgM MM but absent in WM. The presence of MYD88 mutation is usually absent in IgM MM; in contrast is very characteristic of WM. Since the treatment and prognosis of these two hematological disorders is very different, a correct diagnosis is mandatory.<sup>1,2</sup>

### Conflicts of interest

The authors of this paper have no conflicts of interest, including specific financial interests, relationships, and/or affiliations relevant to the subject matter or materials included.

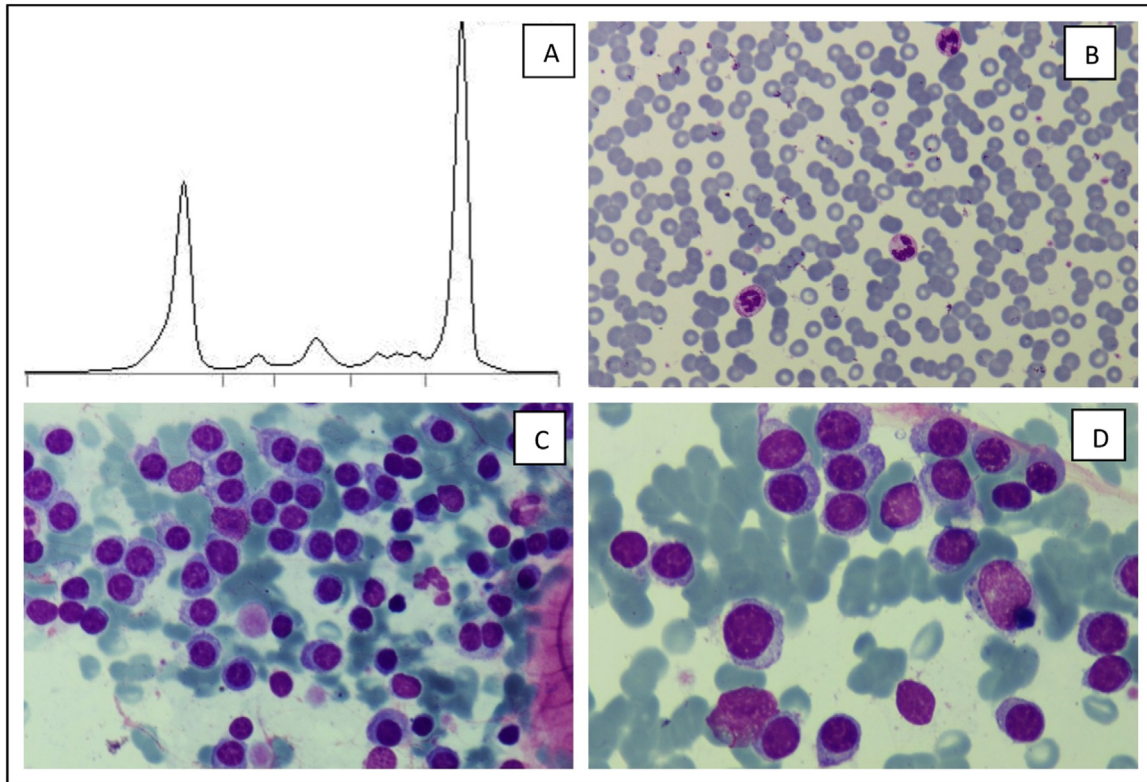
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**Figure 1 – A. M peak in serum protein electrophoresis. B. Peripheral blood smear showing Rouleaux phenomenon. C, D. Bone marrow smear showing an infiltrate by atypical plasma cells with central round nucleus with coarse cytoplasm (May-Grünwald-Giemsa stain, x500 & x1000).**

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