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Clinical Image

Cloverleaf plasma cell nuclei in multiple myeloma

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A 65-year-old man was diagnosed with multiple myeloma (IgG-Lambda) and was treated with high-dose dexamethasone as induction therapy followed by thalidomide-based regimens. About 18 months after the initial diagnosis, the patient presented a first relapse which was treated with the LCD protocol (Lenalidomide, Cyclophosphamide, Dexamethasone).

Twenty months later, a check-up was carried out. Complete blood count showed moderate anemia (hemoglobin at 10g/dl) isolated. The blood smear showed the presence of rolled red blood cells. Protein electrophoresis showed a rising monoclonal peak (monoclonal gammopathy at 48.2g/l) and immunofixation revealed a monoclonal band of immunoglobulin G Lambda (Figure 1). A myelogram was performed confirming the second relapse. Bone marrow smears stained with May-Grünwald Giemsa (MGG) showed cell-rich bone marrow with highly atypical plasma cell infiltration (30%), namely a cloverleaf-shaped multilobed nucleus with nuclear budding (Figure 2). This atypia were absent at the time of diagnosis and only appeared at the second relapse. The diagnosis of anaplastic multiple myeloma was retained.

Plasma cell morphology can vary during the evolution of multiple myeloma, with the appearance of atypia posing a certain diagnostic difficulty. This phenomenon has been reported by other studies [1]. Advances in knowledge of chromosomal and genetic rearrangements involved in the

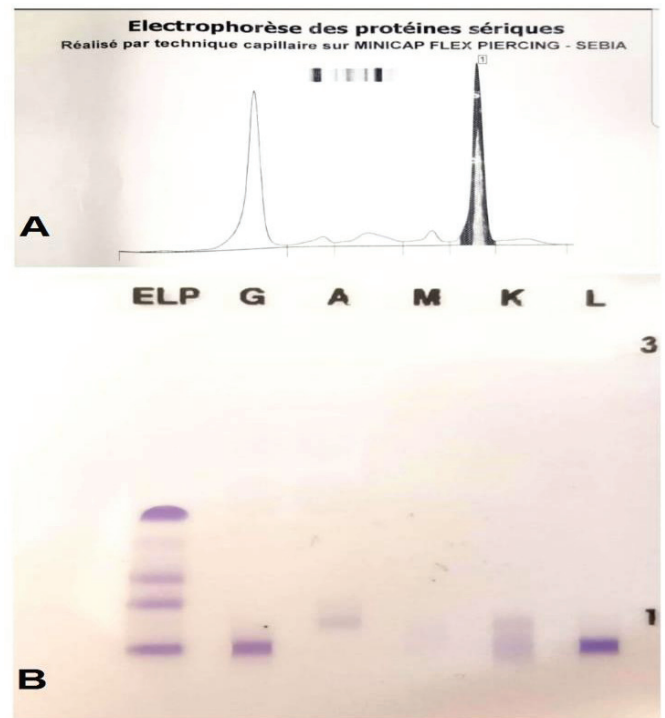


Figure 1: A) Monoclonal gamma globulin peak on protein electrophoresis. B) Immunofixation revealing a monoclonal band of immunoglobulin G kappa.

development of this disease allow a better understanding of the pathophysiological mechanisms involved and better management of patients [2].

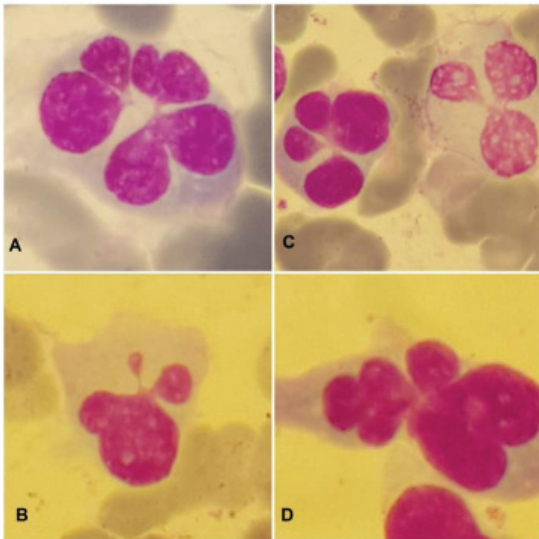


Figure 2: A, C, D) cloverleaf plasma cell nuclei. B) Nuclear budding.

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