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Case Report

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Bi-multilobulated plasma cells: aggressive for multiple myeloma?

Abstract

Multiple Myeloma (MM) is a malignant disease of plasma cells characterized by the accumulation of monoclonal plasma cells (PC) in the bone marrow. We report a case of an 84-year-old woman patient with no significant past medical history, presenting with back pain. This rare case reminds us that an atypical morphological presentation of MM. Our case is remarkable as aggressive course and rare morphological type. Prompt recognition of this rare morphology is important because patient's prognosis is associated with high mortality rate. In addition to morphologic assessment of the plasma cells, multinucleated PC and changes in the cell nucleus-nuclei are also essential parts of the overall evaluation.

Keywords: bone marrow, monoclinical, unusual morphology, hemoglobin, electrophoresis

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Abbreviations: MM, multiple myeloma; PC, plasma cells

Case description

A 84-year-old female patient was admitted to the hospital with back-pain. Physical examination was normal except for pallor. Laboratory results at initial evaluation were hemoglobin: 8.8g/dl, (11-16g/dl), white blood cell count: $4.6x10^9$/L(4.0-$10x10^9$/L), platelets:$250x10^9$/L(150-$450x10^9$/L), creatinine: 2.4mg/dl(0.66-1.09mg/dl), calcium: 9.2mmol/L (8.8-10.6mmol/L), total protein: 7.9g/dl (6.6-8.3g/dl), albumin: 3.4g/dL (3.5-5.2g/dL) and Erythrocyte Sedimentation Rate:31mm/h(<48mm/h) Beta-2microglobulin >10.000ng/ml (607-2454ng/ml), IgG: 530mg/dl(913-1884mg/dl), IgA: 764mg/dl(88-322mg/dl), IgM: 16.8mg/dl(139-379mg/dl). Protein electrophoresis showed monoclonal spike. In marrow aspirate and biopsy, morphology showed atypical plasma cells with large cytoplasma, bi-multilobate irregular nuclei (Figure 1). Biopsy diagnosed kappa IgA-MM. Plasma cells explored the features of high expression of CD20, CD28, CD56, CD117 and loss of CD19, CD81. This immunephenotype results showed clonal plasma cells with MM. After hospitalization before chemotherapy, patient had pneumonic septic shock and acute pulmonary failure. She was followed in intesive care unit.

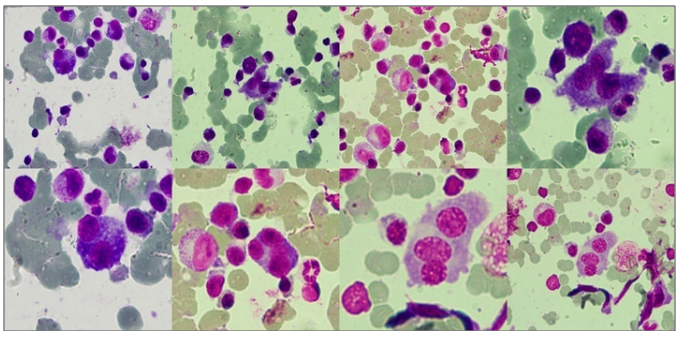

Figure 1 Atypical plasma cells in bone marrow aspirate.

Discussion

MM with multinucleated PC is a rare morphological variant.[1] PC from MM patients showed that PC with irregular nuclei indicated the more advanced stage of the disease and worse prognosis.[2] Multiple myeloma with multinucleated plasma cells is a rare morphological variant, which usually presents with light chain expression and is characterized by an aggressive course and resistance to conventional chemotherapy.[3] Changes in the cell nucleus-size increase, shape irregularity, diffuse chromatin structure and the presence of nucleoli are markers of malignancy.[4]

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Conflict of interest

The author declares no conflict of interest.

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