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A case report of refractory multiple myeloma(MM) with amyloidosis

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Background: Herein,our report describes a case of refractory MM.

Purposes: study on a case of refractory MM

Methods: we performed a retrospective study to analyze the clinical characteristics, laboratory examination, and treatment.

Results: A 51-year-old male was admitted to our hospital complaining of pathological fracture in december 2024. He displayed anemic appearance and fatigue. A peripheral blood examination showed the following results: WBC 11.03×109/L, HB 73g/L, PLT 129×109/L, GLB 106.2 g/L. Primary and young plasmocytes accounted for 24.5% of the bone-marrow cells(Fig1 A). A PET-CT revealed extensive bone damage throughout the body and partially increased FDG metabolism. A MRI revealed cardiac amyloidosis. A histopathology analysis showed 10% monoclonal plasma cells with expression of CD38, CD56, CD138, Lambda(Fig1 B). An immunophenotype analysis showed 4.45% abnormal plasma cells with expression of CD27, CD28, CD38, CD56, CD138 and cLambda. A fluorescence in situ hybridization (FISH) analysis revealed t(4;14) and 1q21 amplification(Fig1 C). Immunoglobulin: IgG 107g/L, IgA 0.07g/L, IgM 0.12g/L. Serum/urine immunofixation electrophoresis: IgG-λ light chain. Serum protein electrophoresis: M(%)58.4%. Urinary light chain quantification: κ3.15mg/L, λ135.64mg/L. In conclusion, the patient definitive diagnosed MM(IgG-λ) with stage of ⅢA(DS) and Ⅲ(R-ISS). The patient had been in poor condition during a series of chemotherapy treatments with VRD(Bortezomib/lenalidomide/dexamethasone), IPD(Isazzomil/Pomadomide/dexamethasone) and VenDd(Daletumab/Veneckla/dexamethasone) successively. Finally, very good partial response(VGPR) was acheived after treatments with Carfezomib/Daletumab/dexamethasone(DKd). To date, the patient remained VGPR undergone autologous hematopoietic stem cell transplantation(ASCT). Consolidation therapy will be followed with carfezomib and daretuzumab.

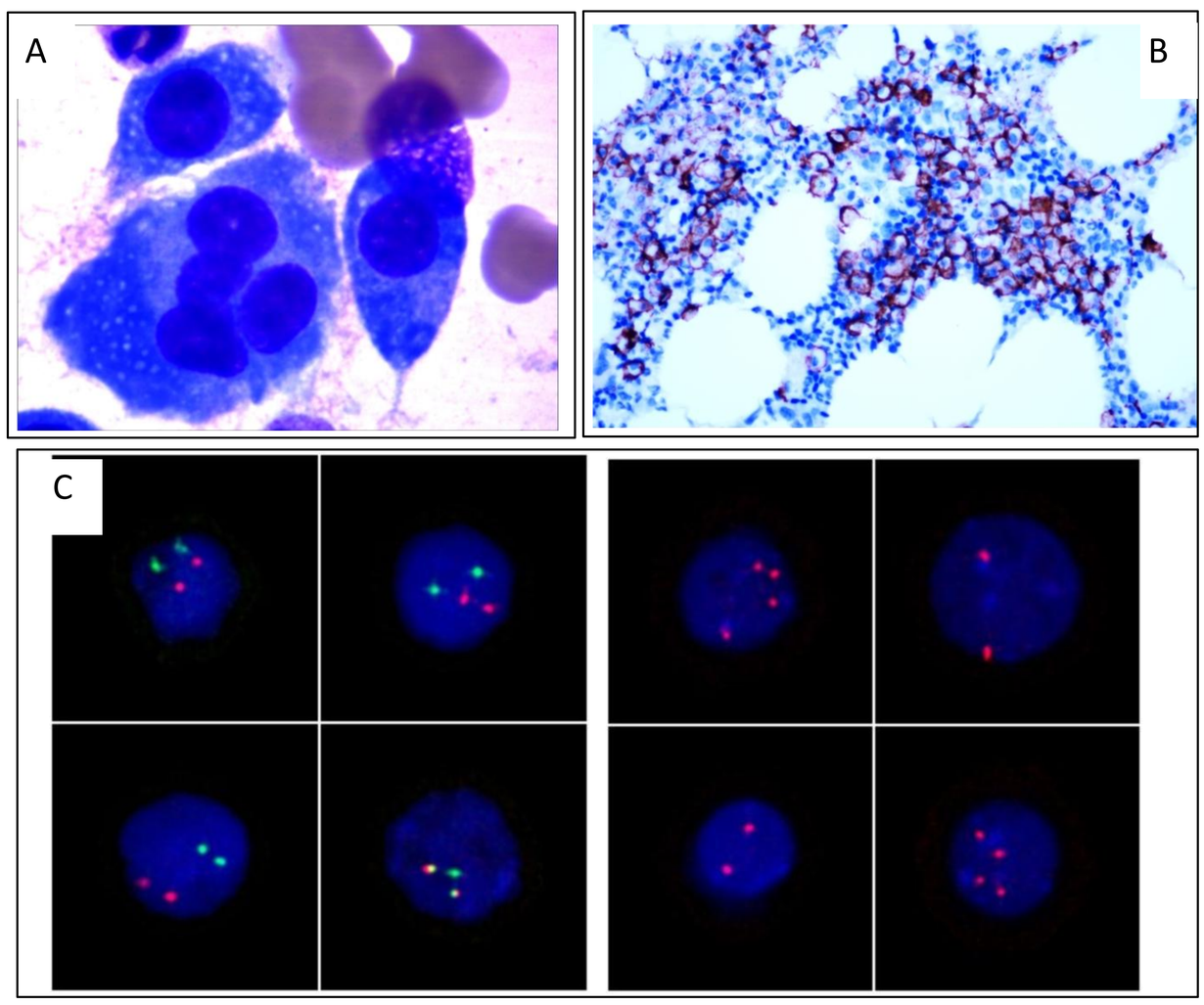

Fig1 Results of examination. A. Primary and young plasmocytes accounted for 24.5% of the bone-marrow cells. B. Monoclonal plasma cells accounted for 10% suggesting that plasma cell tumor. C. FISH analysis. FGFR3/IGH probe, 1O1G2F pattern suggesting that t(4;14). 1q21 probe, 4O pattern suggesting that 1q21 amplification.

Conclusions: t(4;14) and 1q21 amplification are common cytogenetic abnormalities in MM and can lead to poor prognosis. It is rare appearance of amyloidosis in the progression of MM. In this study, the patient achieved deep remission after the treatment of carfezomib combined with daretuzumab, and it was beneficial to the subsequent salvage ASCT.

1. NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®)NCCN Guidelines Index Table of Contents Discussion Multiple Myeloma Version 3.2024 — March 8, 2024.

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