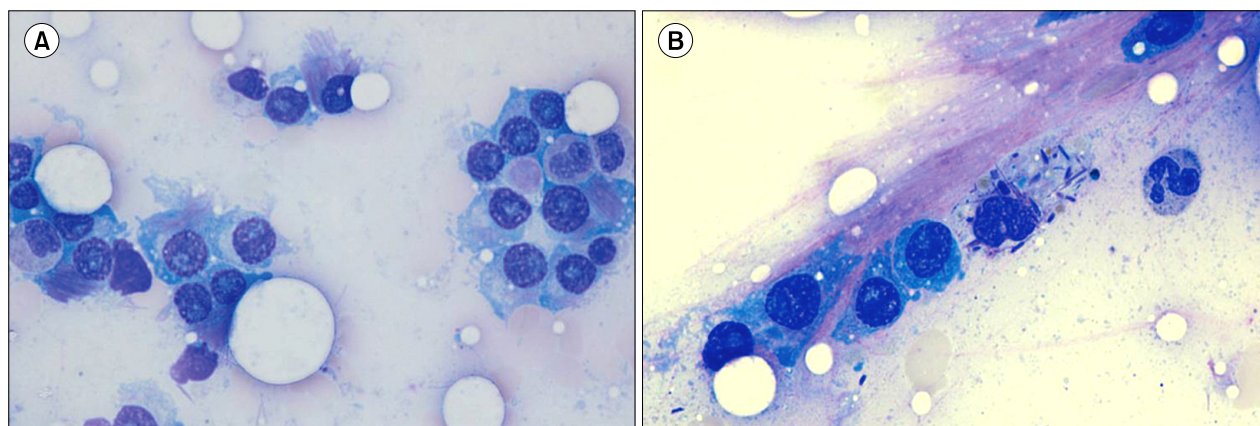


Auer rod-like crystal inclusions in plasma cells of multiple myeloma

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A 65-year-old man with 10-year history of non-insulin dependent diabetes mellitus presented with anemia and thrombocytopenia, which lasted for 3 months. Blood cell counts were: WBC, $5.1 \times 10^9/L$; hemoglobin, 9.0 g/dL; platelet, $64 \times 10^9/L$. Peripheral blood film showed no rouleaux formation. Routine chemistry showed: calcium, 9.4 mg/dL; blood urea nitrogen/creatinine, 12/1.1 mg/dL; protein/albumin, 6.3/3.5 g/dL. Radiologic studies showed suspicious osteolytic lesions on the humerus and distal clavicles. Serum protein electrophoresis revealed M-peak of 0.2 g/dL, and immunofixation electrophoresis showed a zone of restriction in the kappa light chain, suggesting monoclonal component. Urine protein electrophoresis revealed free kappa-type Bence-Jones proteinuria (59.3% of urine protein). Bone marrow aspirates showed many plasma cells (64.0% of nucleated cells) with Auer rod-like crystal inclusions in the cytoplasm. (A) Engulfed Auer rod-like inclusions in numerous histiocytes and free Auer rod-like inclusions in the backgrounds were observed. (B) Bone marrow biopsy showed decreased cellularity with interstitial and nodular infiltration of plasma cells. Immunohistochemical findings confirmed the kappa monoclonality of plasma cells. Despite 2 cycles of dexamethasone treatment without complications, the patient still suffers from Bence-Jones proteinuria and worsened bone pain.