Auer Rod-Like Inclusions in Light Chain Myeloma: A Rare Morphological Feature

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A 72 year old male presented with persisting joint pains. On investigations he was found to have hemoglobin of 110 g/l, hypercalcemia (40 mg/dl), rising creatinine levels (2.5 mg/dl) and hypoalbuminemia. The serum protein was 5.2 g/dl and albumin was 2.8 g/dl. Serum and immunofixation electrophoresis did not reveal a monoclonal component. Beta-2 microglobulin was markedly elevated (6519 ng/ml).

The skeletal survey did not show lytic lesions.

Bone marrow examination showed 35% plasma cells which appeared pleomorphic and multinucleated. Azurophilic, needle-shaped inclusions, resembling Auer rods were seen in the cytoplasm of plasma cells. Histiocytes engulfing these inclusions resembling faggot cells on

morphology were also observed (Fig. 1b, c, 100× May-Grunwald Giemsa).

The Serum-free light chain assay showed a kappa to lambda ratio of 2450.

A diagnosis of light chain myeloma with kappa-type paraprotein was made.

Karyotype did not show hyperdiploidy. Fluorescence in situ hybridization (FISH) revealed no evidence of monosomy 13, 17p deletion, 1q amplification, 1p deletion and IGH translocation.

Auer rod-like inclusions in plasma cells is a rare morphological finding [1]. These inclusions are formed of crystallized lysosomal enzyme deposits, however, its exact nature remains unknown. [2]. It is particularly observed in myeloma with kappa-type paraprotein [1], as in our case. Its prognostic significance has not yet been determined [1].

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Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical approval All procedures performed were in accordance with the ethical standards of the institution and the national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

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Fig. 1 **a** Azurophilic, needle-shaped inclusion, resembling an Auer rod in the cytoplasm of a plasma cell. **b, c** Histiocytes engulfing these inclusions resembling faggot cells (100x May-Grunwald Giemsa)

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