Auer-Rod-Like Inclusions in Cells of B-Lymphocytic Lineage

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Juneja et al. [1] described the occurrence of Auer-rod-like inclusions (ARLI) in leukemic B-lymphocytes with surface IgGκ. We observed ARLI in cells of B-lymphocytic lineage in Pappenheim-stained smears [2] in 2 patients.

In bone marrow smears of a 28-year-old Caucasian woman with severe aplastic anemia – confirmed later by autopsy – one plasma cell with 14 slightly bent reddish-purple rods with sharp ends in the cytoplasm (fig. 1), was found. These rods were not typical crystallized immunoglobulin, as they did not react with periodic acid-Schiff (PAS) on the restained smear.

The differential bone marrow cell count exhibited 2.4% plasma cells. In three panoptic-stained bone marrow smears 153 further plasma cells were present: 91 of normal morphology, 57 with one or several cytoplasmic vacuoles, 2 with spindle-shaped clear spaces in the cytoplasm, 2 flaming plasma cells and 1 plasma cell with two nuclei. The patient was treated orally with the following drugs daily for 12 days before the bone marrow examination: prednisone 60–80 mg, oxy-metholone 50 mg, nystatin, lithium carbonate, vitamins C and K₁. Plasma cells with ARLI were described in myeloma [2, 3] or gammopathies [4, 5]. From the normal level of gammaglobulins we assume that the ARLI and other morphological changes observed in the plasma cells of our patient are a reaction to severe aplastic anemia, the treatment, or both.

A 45-year-old Caucasian man with atypical chronic B-lymphocytic leukemia (medium-sized mature lymphocytes with about 20% prolymphocytes and 3% blasts, surface IgMλ, 27 months duration) was treated with splenic irradiation (10 Gy) and prednisone 15 mg/day for painful splenic enlargement. Three months later, reddish-purple short rods (ARLI) were found in 4 of 5,000 leukemic cells (always 1 rod in a cell) in the peripheral blood smear stained ac-
Fig. 1. Plasma cell found in a bone marrow smear of a 28-year-old woman with severe aplastic anemia. × 2,000.

cording to Pappenheim [2]; however, no rod showed a positive reaction to peroxidase, PAS [2] or naphthol AS-D chloroacetate esterase [6]. Furthermore, small chips of cell nuclei of various shapes, sometimes connected with the nucleus, have been repeatedly detected in about 0.5% of leukemic cells since the time of the splenic enlargement.

Our findings thus demonstrate that ARLI may occur in malignant and reactive cells of B-lymphocytic lineage in panoptic-stained smears. As Auer rods have been considered a specific diagnostic marker for myeloid origin of leukemic cells, it is of great importance for classification of leukemias to distinguish true Auer rods from ARLI by cytochemical, ultrastructural or other methods. Without further confirmation of their character, reddish-purple rods in leukemic cells in panoptic-stained smears cannot be interpreted as Auer rods in cases of a dubious diagnosis.

Lemez

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