

Interesting Images

Intracellular Crystals in Chronic Lymphocytic Leukemia

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Abstract: An 81-year-old man presented with weight loss and lymphocytosis with a white blood cell count of 55,000/ μ L with 80% lymphocytosis and 20% segmented neutrophils. Hemoglobin was 14 g/dL and platelets $139 \times 10^3/\mu$ L. In flowcytometric analysis of peripheral blood, the CD19-expressing lymphocytes (52%) were positive for CD5, CD23, and CD200 and they were negative for CD10, CD103, CD25, and T-cell markers. There was no surface expression of light chains. Serum protein electrophoresis revealed mild hypogammaglobulinemia (0.60 g/dL, normal >0.69) and on immunofixation electrophoresis there was a small monoclonal spike of IgG Lambda.

Keywords: inclusion body; immunoglobulin crystals, chronic lymphatic leukemia 3

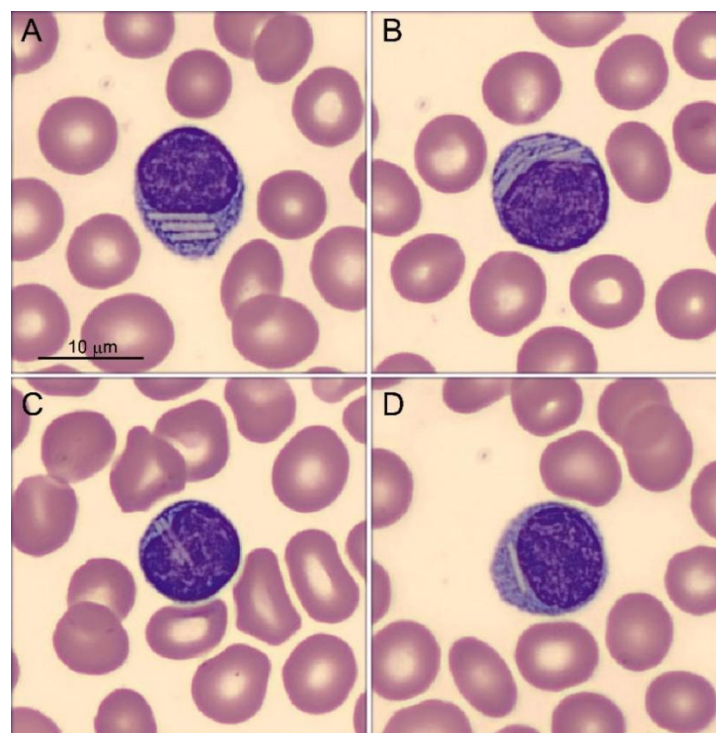


Figure 1. On reviewing the peripheral blood smear, the morphology of lymphocytes was most remarkable with intracytoplasmic elongated rod like crystals in most cells (A–D). These crystals were highly refractile and spanned most of the cytoplasm. There were up to 1–10 crystalline rods present per lymphocyte. Some of them were present over the nucleus (C). Multiple intracytoplasmic inclusions of insoluble immunoglobulins are often present in plasma cells, and intracellular crystalline inclusions are rare in patients with CLL and since 1962 there have been only a few reports [1–3].



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Author Contributions

Both authors equally contributed to conceptualization, methodology, software, data curation, writing—original draft preparation, visualization, investigation, software, validation, writing—reviewing, and editing. P.T.: supervision. All authors have read and agreed to the published version of the manuscript.

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Institutional Review Board Statement

This study was approved by the institutional review board of Baylor College of Medicine with a waiver of ethical review and informed consent (H-23175), as this study is a retrospective analysis of blood specimens collected for other diagnostic purposes.

Informed Consent Statement

Informed consent was waived as this study was a retrospective analysis of blood specimens collected for other diagnostic purposes.

Data Availability Statement

Not applicable.

Conflicts of Interest

The authors declare no conflict of interest.

Use of AI and AI-assisted Technologies

These were not used by the authors submitting this paper.

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