

The Cabot Ring at Different Stages of Erythropoiesis in the Bone Marrow in a Leukemic Patient

Turgutkaya A. et al.: Cabot Ring in Erythroblasts

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March 7, 2025

May 5, 2025

Cabot rings are red cell inclusions and may be looped or eight-shaped. They are seen in pernicious anemia and other severe anemias, leukemias, and lead poisoning. They may be remnants of the mitotic spindle and are associated with adherent granular material containing arginine-rich histone and nonhemoglobin iron. Some authors suggested that they originate from spindle material that was mishandled during abnormal mitosis. Although it is usually seen in mature erythrocytes in peripheral blood, it has also been defined in late-intermediate bone marrow megaloblasts [1,2]. Here, we present a case diagnosed with acute myeloid leukemia (AML) in which a Cabot ring was observed in the different stages of erythropoiesis in bone marrow aspiration (BMA).

In a fifty-three-year-old male patient diagnosed with AML with myelodysplasia-related cytogenetic abnormalities according to the 5th edition of the World Health Organization, megaloblastic changes and a Cabot ring in the several stages of erythroblasts and erythrocytes was observed in BMA (Figure-1) [3]. There was no Cabot ring appearance in the previous bone marrow samples (during diagnosis and after remission-induction). His folic acid level was detected <2.2 ng/mL (3.1-20.5) and he had previously received cytarabine-based induction and three cycles of consolidation therapy. The Cabot ring was thought to be related to these factors. The widespread presence of a Cabot ring in different stages of erythropoiesis has not been previously described.

Keywords: Bone marrow; Cabot ring; Erythrocytes; Erythropoiesis; Stage

Funding: This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflicts of interest/Competing interests: None

Availability of data and material: The authors approve that all necessary papers regarding this report can be offered on request.

Ethics approval: Ethical committee approval is not required.

Consent to participate: Informed consent form approving participation was obtained from the patient.

Consent for publication: Informed consent form approving publication was obtained from the patient.

Permission to reproduce material from other sources: N/A

Clinical trial registration: N/A

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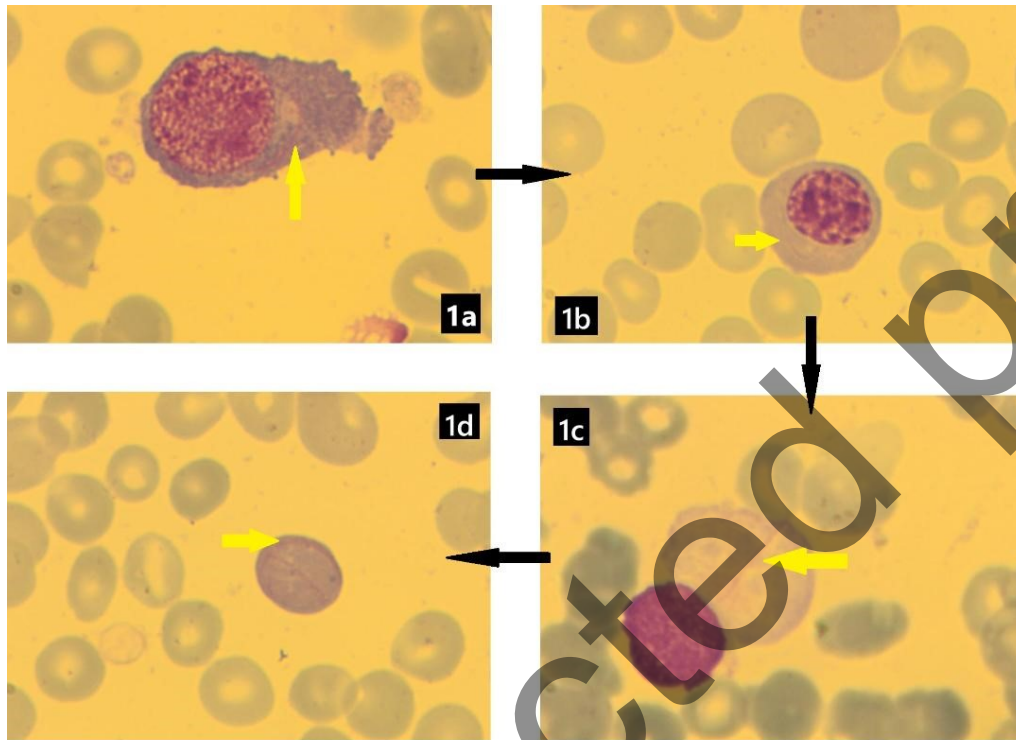


Figure 1a-b-c-d: Cabot ring appearance at different stages of erythropoiesis (yellow arrows)

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