Roth’s spots in leukemia

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Description
A 32-year-old man, with occasional dizziness and fatigue for one year, presented acute onset of central blurred vision of the left eye occurred. No focal neurologic signs neither limitation in eye of movement were found. Complete blood cells were white blood cells 417,700/mm³, hemoglobin 8.6 g/dl, and platelet 273,000/mm³. Lactate dehydrogenase 955 U/l and alkaline phosphatase 233 U/l and others were unremarkable. Fundoscopic examination revealed multiple Roth’s spots at fovea of the left eye (Figure 1A). Bone marrow biopsy demonstrated hyperplasia in myeloid series, blasts, increased megakaryocytes with dwarf size, and hypolobulated nucleus (Figure 1B), which was compatible with Chronic Myeloid Leukemia (CML). Resolution of CML was completed and visual acuity returned to normal status after chemotherapy for CML.

Abstract
Roth’s spots are retinal hemorrhages with white or pale centers, which can be seen in numerous conditions. Ocular disorders have been described in 39.3% of patients with diagnosis of leukemia. Incidences of intraocular manifestations are 7.7% in patients of chronic leukemia. Mechanism of retinal hemorrhages is related to hyperviscosity syndrome caused by leukocytosis or direct infiltration. Fundoscopy is a mandatory examination by ophthalmologist in patients of leukemia with intraocular disorders. We present the case of Roth’s spots in a 32-year-old man of chronic myeloid leukemia.

Keywords: Leukemia; Retinal hemorrhages; Roth’s spots.

Abbreviations: CML: Chronic Myeloid Leukemia.
prompt detailed review of systems and laboratory evaluation when Roth’s spots have been noted. Fundoscopy is a mandatory examination by ophthalmologist in patients of leukemia with intraocular disorders [5].

**Figure 1:** Multiple white-centered retinal hemorrhages at fovea in the left eye on the fundoscopic image (1A). Hypercellular findings with increased eosinophils and basophils (magnification x40, upper panel, 1B); hyperplasia in myeloid series, blasts, increased megakaryocytes with dwarf size, and hypolobulated nucleus (magnification x 400, lower panel, 1B) on the pathologic image of bone marrow.

**Declarations**

**Conflict of interest declaration:** None.

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**References**


