

Ocular Manifestations of Acute Myeloid Leukemia

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1. Abstract

The ophthalmologic manifestations of acute leukemia are rare and may go unnoticed. They can range from blurring of vision to reduced visual acuity. The retina is the most commonly affected intraocular structure.

We report a case of a 5-year-old Infant, followed for trisomy 21 and treated for Two years for acute myeloid leukemia, has been admitted with visual disturbances and ocular swelling. The physical examination showed oculomotor paralysis, conjunctival hemorrhage, periorbital swelling and bruising.

the blood screening and the blood smear showed an invasion of the peripheral blood by the blasts, allowing the diagnosis of a recurrent leukemia.

2. Clinical Image

A 5-year-old Infant, followed for trisomy 21 and treated for Two years for acute myeloid leukemia, has been admitted with visual disturbances and ocular swelling. The physical examination showed oculomotor paralysis, conjunctival hemorrhage, periorbital swelling and bruising (Figure 1), gingival hypertrophy was also noticed (Figure 2); A fundus examination showed Viscosity-related retinopathy with white center hemorrhage. The orbital scan performed revealed a thickening of the soft parts of the periorbital region.



Figure 1: Periorbital swelling and bruising



Figure 2: Gingival hypertrophy

the blood screening and the blood smear showed an invasion of the peripheral blood by the blasts, allowing the diagnosis of a recurrent leukemia. the patient was referred to the pediatric oncology center for therapeutic treatment.

Ocular involvement is the third extra-medullary location after Central Nervous System and testicular involvement. Several lesions remain asymptomatic and will be diagnosed after an ophthalmologic examination of routine [1]. Sometimes this attack is difficult to control, thus engaging the vital and functional prognosis of the patient.

Ophthalmological manifestations can be classified into two categories, a direct or primary leukemic infiltration of the structures and secondary or indirect damage, due to haematological abnormalities.

All the parts can be affected, the first sign of anterior segment involvement during leukemia is iris heterochromia or nodules, uveitis with hypopyon, isolated ocular hypertonia, or spontaneous hyphema; The retina is very commonly affected. It is estimated that over 70% of patients have retinal abnormalities during ocular relapse. The early retinal manifestations are venous dilations and tortuosities [2].

Treatment consists of systemic and intraspinal chemotherapy, combined with local corticosteroids, should be followed promptly by irradiation of the anterior segment of the eye; Early detection of subclinical ophthalmologic lesions is

crucial, the ophthalmological examination must be systematic, completed by para clinical examinations. It is still much more important in patients in complete remission, the aim being to detect relapses as soon as possible, as early treatment can improve the life expectancy of the patient.

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