

White-centred retinal hemorrhage revealing acute leukemia

Hémorragies rétinienne à centre blanc révélant une leucémie aiguë : a propos d'un cas

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RÉSUMÉ

Introduction : Les leucémies aiguës constituent un groupe hétérogène d'hémopathies malignes qui engage rapidement le pronostic vital en absence du traitement. Elles constituent une urgence diagnostique et thérapeutique. Les manifestations oculaires sont fréquentes mais rarement révélatrices de la maladie, survenant le plus souvent à la suite d'un envahissement tumoral à partir du système nerveux central, d'autres sont secondaires à une insuffisance médullaire.

But : Rapport du cas d'un patient âgé de 17 ans porteur d'une leucémie aiguë révélée par une hémorragie rétinienne à centre blanc.

Observation : Nous rapportons le cas d'un enfant âgé de 17 ans sans antécédents pathologiques particuliers qui a été hospitalisé au service de MI pour AEG présentant une baisse brutale et bilatérale de la vision, l'examen du fond d'oeil a trouvé des hémorragies rétinienne à centre blanc. Le bilan étiologique a confirmé le diagnostic d'une leucémie aiguë. Un traitement à base de chimiothérapie a permis une rémission complète.

Discussion : L'hémorragie rétinienne à centre blanc est rarement révélatrice de la leucémie aiguë. Elle peut être en rapport avec une insuffisance médullaire ou de véritables infiltrats leucémiques constituant ainsi un signe de mauvais pronostic.

Conclusion : Un examen ophtalmologique complet et une enquête étiologique sérieuse et large s'impose devant la découverte d'une hémorragie rétinienne à centre blanc. La leucémie aiguë est l'une des étiologies les plus graves.

Mots-clés

Hémorragies rétinienne à centre blanc , leucémie aiguë.

SUMMARY

Introduction : Acute leukemias are a heterogeneous group of hematological malignancies (blood cancers) that are rapidly life-threatening in the absence of treatment. They constitute a diagnostic and therapeutic emergency. Ocular manifestations are more frequent but less revealing of the disease, most often as a result of tumor invasion from the central nervous system .Other manifestations are secondary to bone marrow failure

Medical report : We report the case of a 17-year-old patient without any medical history hospitalized for pulmonary infection presenting a brutal and bilateral reduced vision. The examination of eye fundus finds white-centered retinal hemorrhages The etiological assessment confirms the diagnosis of acute leukemia. A treatment based on chemotherapy allowed a complete remission.

Discussion : white-centered retinal hemorrhage is rarely revealing acute leukemias It may be related to a medullary insufficiency or leukemic infiltrates constituting a sign of bad prognosis.

Conclusion : A complete ophthalmological examination and a serious and wide etiological investigation are needed to help the discovery of white-centred retinal hemorrhage. Acute leukemia is one of the most serious etiologies

Key-words

White-centered retinal hemorrhage, acute leukemia

INTRODUCTION

Acute leukemia is a malignant haematological disorder characterized by intramedullary clonal proliferation of hematopoietic precursors. It represents 30 to 35% of the malignant pathologies of the child (1). its ocular manifestations are in the third rank of extra -medullary localizations after meningeal and testicular localization (2). two mechanisms of ocular manifestations are known : Direct in relation to an oculo -orbital invasion by contiguity from the central and Indirect secondary to the medullary insufficiency. Chorioretinal involvement is rarely inaugural, and is often discovered during a systematic review (3). We report the case of a 17 -year -old child with bilateral white -centered retinal hemorrhages indicative of acute leukemia and discuss the various ocular manifestations, especially chorioretinians, of acute leukemia.

OBSERVATION

We report the case of a 17 -year -old child with no particular medical history who was hospitalized in the internal medicine department for general impairment with fever, weight loss, anorexia, and pulmonary infection and who subsequently had a sudden bilateral visual acuity decrease evolving since 24 hours. A complete ophthalmologic examination showed a visual acuity reduced to hand motion.

the examination of the anterior segment as well as the measure of the ocular tone are without anomalies, the examination of the fundus finds bilateral white -centered retinal hemorrhages associated with multiple diffuse superficial and deep macular and peripapillary haemorrhages (Figure 1). Retinal angiography shows a mask effect due to retinal hemorrhages (Figure 2).

The biological examinations show a leukocytosis at 32 200 elements / mm³ with anemia (haemoglobin= 10.7g/dl) and thrombocytopenia (platelets = 86000 elements / mm³). The myelogram confirms the diagnosis of acute leukemia by highlighting the presence of leukoblastosis. The extension assessment was negative. The child is cared for in a specialized service and recieved chemotherapy with complete remission.

DISCUSSION

The ocular manifestations of acute leukemia are frequent and differently appreciated by the authors, they range from 9% to over 80%. (4) They are occurring either from the central nervous system or by contiguity from the neighboring bone, sometimes it is a colonization of the eye by hematogenous means (5). Chorioretinal involvement is the most important of these ocular manifestations and is mainly due to two consequences of the disease: bone marrow failure and blast cell proliferation (3). Infiltration of

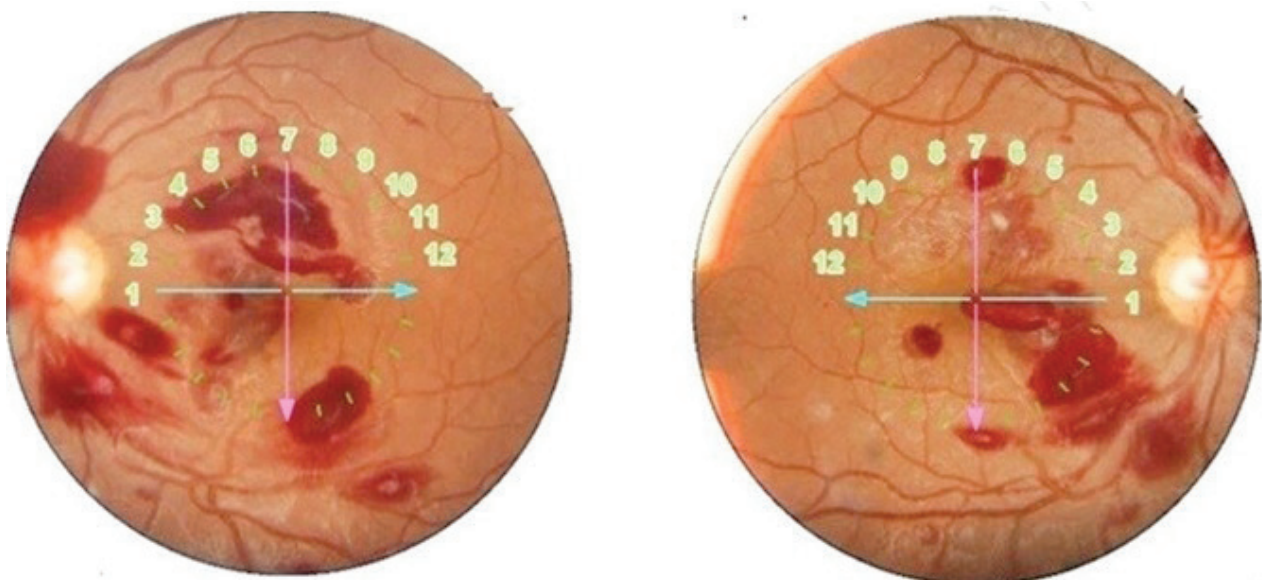


Figure 1: Superficial and deep diffuse retinal hemorrhages with Roth stains.

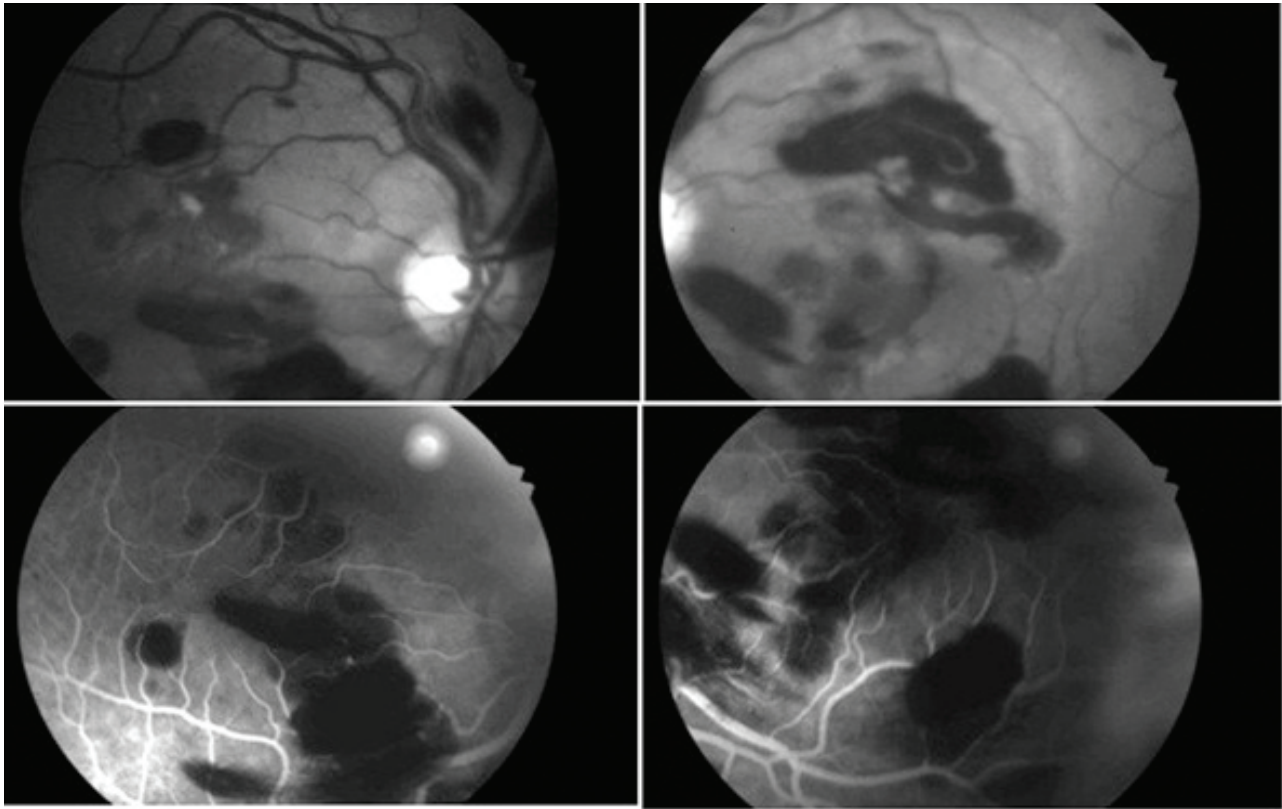


Figure 2: fluorescein angiography: mask effect in relation to retinal hemorrhages.

the choroid causes an appearance of “leopard skin” aspect, sometimes accompanied by retinal serous detachment and choroidal neovascularization (4). The involvement of the retina is known as leukemic retinopathy, characterized by the presence of pre-retinal white nodules called miliary infiltrates, dilatation and vascular swelling, cotton wool nodules, microaneurysms, capillary occlusions and sometimes neovascularization (5). White -centered retinal hemorrhage, also known as the Roth spot, is most often a manifestation of retinal capillary rupture succeeded by the repairing process that will form the central white thrombus, but sometimes it is due to true leukemic infiltrates, thus constituting a sign of bad prognosis (reflection of circulating blastosis) (6).

In our case, it is probably retinal capillary rupture with a central white thrombus in the absence of dissemination to the other lymphoid organs with a limited degree of leukocytosis. The attacks of the anterior segment are rare. It is essentially infiltration of the iris and ciliary body at the origin of an irido -cyclite or a nodular aspect of the

iris. Orbital locations lead to eyelid edema, sometimes ecchymotic and painful exophthalmos. it account for about 10% of the etiologies of exophthalmia in children (7). Optic nerve involvement is more rarely observed, it was found histologically in 18% of cases in necropsy studies and occurs mainly in children with Acute lymphoblastic leukemia (8). The vitreous localization is rarely reported in the literature, it is due to vitreous invasion via the optic nerve or hematogenously (9). In our observation no other ocular manifestations were found.

CONCLUSION

A complete ophthalmologic examination and a serious and wide etiological investigation are necessary in view of the discovery of a white -centered retinal hemorrhage during the examination of the fundus. Acute leukemia is one of the most serious etiologies constituting a diagnostic and therapeutic emergency.

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