

Infantile capillary hemangiomas

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Summary: Infantile hemangioma is a benign tumor whose diagnosis is most often clinical. With a prevalence of 10% during the first year of life, hemangiomas are the most common vascular tumors during childhood and predominantly female. Infantile capillary hemangiomas are benign lesions whose regression is the rule. The risk of amblyopia requires urgent and rapid treatment. Several therapeutic modalities are proposed, however oral beta-blockers allow a rapid and favorable evolution for large and deep lesions and require close monitoring. We report a series of three cases of child with infantile capillary hemangioma.

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I. Introduction:

Infantile hemangioma is a benign tumor whose diagnosis is most often clinical. It belongs to the group of vascular tumors in the classification of the International Society for the Study of Vascular Anomalies (ISSVA) [1]. With a prevalence of 10% during the first year of life, hemangiomas are the most common vascular tumors during childhood [2] and predominantly female. Benign in form, it evolves towards the gradual spontaneous disappearance over several years. The indications for treatment are the threat of visual function by amblyopia and aesthetic damage [3].

II. Materials And Methods:

We report a series of three cases of patients consulting the ophthalmological emergency department of the hospital 20 August in Casablanca:

- 2-month-old female infant for angiomatous lesion of the face
- 12-year-old girl for an internal canthale mass
- 13-year-old girl for an internal subtarsal mass

Comments:

Case 1:

Infant two (02) months of age, female, with no particular pathological history, who presents with a papular erythematous plaque of the trunk and face without respect for the midline extended to the left palpebral region (Figure 1).

Ophthalmological examination notes an absent spontaneous palpebral opening, the photomotor and pursuit reflex are present. Examination of the anterior and posterior segments is without abnormalities.

The computed tomodensitometry (CT) of the orbit objective an intraorbital localization.

Therapeutic management consisted of oral administration of propranolol at a dosage of 1 mg / kg per day for six (06) months followed by amblyopia treatment with right palpebral occlusion.



Figure 1: Hemangioma of the face and left orbital

Case 2:

12-year-old girl with a history of recurrent right hemolacria.

The ophthalmological examination objective a mobile rounded mass measuring 2 cm in diameter, reddish-brown color, soft consistency located at the level of the wattle and bleeding on contact (Figure 2). Examination of the anterior and posterior segments is without abnormalities.

Our conduct consisted of therapeutic abstention.



Figure 2: Right wattle hemangioma

Case 3:

Teenager of 13 years, with a history of allergic conjunctivitis under Ketotifen, who consults for a sensation of foreign body associated with a right hemolacria evolving for ten (10) days.

The general examination is unremarkable.

Ophthalmological examination notes a blood-tinged lacrimal river, a pedunculated sub-tarsal mass measuring 3 cm. Examination of the anterior and posterior segments is without abnormalities.

Therapeutic management consisted of administration of a combination of Dexamethasone eye drops at a dosage of 4 drops per day and ointment application in the night.

The evolution after one month of treatment under was marked by mass regression (Figure 3).

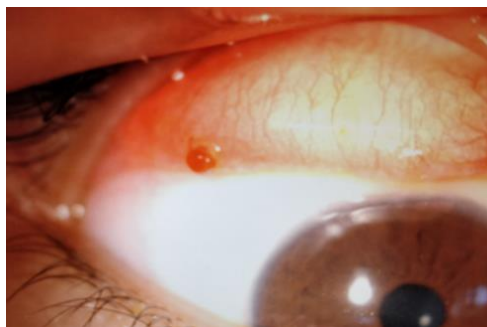


Figure 3: Evolution of a hemangioma of the tarsal conjunctiva under topical corticosteroid

III. Discussion:

Epidemiology:

Hemangiomas are the most common vascular tumours in children, especially females.

Pathogenesis

The etiopathogenesis of this proliferation remains unknown but hormonal, immunological, genetic factors and vascular dysgenesis are often implicated [4].

Histology

Histologically, capillary hemangiomas result from the organization of immature endothelial and pericytic cells in the form of vascular channels in the presence of proangiogenic factors such as basic fibroblast growth factor (bFGF) and vascular endothelial growth factor (VEGF).

Clinical

In palpebral or orbital locations, amblyopia can occur in 60% of cases [5]. Amblyopia is related to the pressure exerted by the hemangioma on the oculomotor muscles and the eyeball causing anisometropia or significant

astigmatism or even optic neuropathy [5]. Exophthalmos, corneal exposure or damage to the bone frame have also been reported [6].

The main differential diagnoses are rhabdomyosarcoma, orbital cellulitis, secondary orbital metastases, mainly leukemias, dermoid cyst, meningocele or glioma of the optic tract [7].

Paraclinic

The three (03) radiological examinations to evaluate hemangiomas are ultrasound, computed tomography (CT) and orbital magnetic resonance imaging (MRI). The latter is the exam of choice to explore the orbit and its contents. The lesion is isosignal in T1, hypersignal in T2 and is raised with injection of contrast medium.

Treatment

In the absence of functional consequences, monitoring is the rule given the tendency to resolution in the majority of cases. Sometimes, the visual prognosis is put at stake imposing urgent care. The goal of treatment is to stop the proliferation of hemangioma and accelerate its involution in order to prevent amblyopia.

Several therapeutic means have been successfully used such as cryotherapy, radiotherapy, pulsed laser, interferon alpha, embolization of feeding vessels by a sclerosing product, immunosuppressants. But their side effects limit their indications.

Systemic corticosteroid therapy has been indicated for hemangiomas with rapidly diffuse growth with a risk of rebound upon discontinuation of treatment.

Surgery is feared because of the significant risk of bleeding in the absence of a good dissection plan in these unencapsulated tumors and its inadequate results as well as the risk of unsightly scarring due to the aggressive use of cauterization [6].

In several studies, oral propranolol has shown remarkable regression in patients with palpebral hemangioma for up to 5 years of treatment [8] [9].

IV. Conclusion:

Infantile capillary hemangiomas are benign lesions whose regression is the rule. The risk of amblyopia requires urgent and rapid treatment. Several therapeutic modalities are proposed, however oral beta-blockers allow a rapid and favorable evolution for large and deep lesions and require close monitoring.

References:

- [1]. Mulliken JB, Glowacki J. Hemangiomas and vascular malformations in infants and children: a classification based on endothelial characteristics. *Plast Reconstr Surg* 1982; 69(3):412-22
- [2]. Frieden IJ, Haggstrom AN, Drolet BA et al. Infantile hemangiomas: current knowledge, future directions. Proceedings of a research workshop on infantile hemangiomas, April 7–9, 2005, Bethesda, Maryland. *Ped Dermatol*. 2005; 22:383–406
- [3]. Delmotte N, Mise au point sur le traitement de l'hémangiome du nourrisson par bêtabloquant *Thérapie* 2012 Mai-Juin; 67 (3):257–265 2012 Société Française de Pharmacologie et de Thérapeutique
- [4]. Hatem M. Combined Oral and Topical Beta Blockers for the Treatment of Early Proliferative Superficial Periocular Infantile Capillary Hemangioma Vol. 55, No. 1, 2018 *Journal of Pediatric Ophthalmology & Strabismus*
- [5]. Azizkhan R, Azizkhan J, Zetter B, Folkman J. Mast cell heparin stimulates migration of capillary endothelial cells in vitro. *J Exp Med*. 1980; 152:931-44 pubmed
- [6]. Guo S, Ni N. Topical treatment for capillary hemangioma of the eyelid using betablocker solution. *Arch Ophthalmol*. 2010; 128:255-6 pubmed
- [7]. Abry F, Kehrl P, Speeg-Schatz C. Hémangiomes orbitaires et palpébraux chez l'enfant: prise en charge thérapeutique. *J Fr Ophtalmol* 2007;30(2):170-6.
- [8]. Holmes WJ, Mishra A, Gorst C, Liew SH. Propranolol as firstline treatment for rapidly proliferating infantile haemangiomas. *J Plast Reconstr Aesthet Surg*. 2011; 64:445-451.
- [9]. Frieden IJ, Drolet BA. Propranolol for infantile hemangiomas: promise, peril, pathogenesis. *Pediatr Dermatol*. 2009; 26:642-6.

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