

CASE REPORT**Spontaneous Orbital Hematoma in a 2-day Old Neonate: A Case Report****Dagmawit Kifle¹, Aemro Abateneh¹****OPEN ACCESS**

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ABSTRACT

BACKGROUND: *Intra-orbital hematoma is an eye disease that is usually attributed to trauma, neoplasm, acute sinusitis or vascular malformations. However, spontaneous hematoma is a rare condition and can be an early manifestation of hematological disorders.*

CASE REPORT: *This is a case report on a 2-days old male neonate presented with proptosis of the right eye since the second day of birth. The pregnancy was term and the delivery was at health center by spontaneous vaginal delivery in which no instruments were used. He had no history of trauma and no bleeding from other sites. On physical examination, he had axial proptosis of the right eye of 26mm, injected conjunctiva and corneal ulcer with infiltrates. On complete blood count, white blood cell was 23.53×10^3 , red blood cells = 3.96×10^6 , platelets = $279 \times 10^3/\mu\text{L}$, hemoglobin = 13.5g/dl, hematocrit = 38.7%. Coagulation profile test showed; prothrombin time = 5.1 with reference range of (10- 14 seconds); partial thromboplastin time = 24.9 reference range of (22-27seconds) and international normalization ratio = 0.4 with reference range (0.8- 1.1). Ultrasound showed hematoma collection, and clotted blood was surgically drained with no other intra-operative finding. After the surgery, he took systemic and topical antibiotics, and progressively, the proptosis, conjunctival injection and corneal ulcer improved.*

CONCLUSION: *In our case, we were not able to know the exact cause for the orbital hematoma. Although it is not common, we have to consider the possibility of spontaneous hematoma as a cause of sudden proptosis in neonates.*

KEY WORDS: *Proptosis, orbital hematoma, Hemorrhagic disease of new born*

INTRODUCTION

Spontaneous intraorbital hematoma is an uncommon clinical entity which has been hypothesized to be due to a sudden increase in intraorbital pressure or systemic disease. Clinically, it manifests as severe ocular pain, vision loss, eyelid edema, proptosis and diplopia without history of trauma (1).

Current evidence attributes it to orbital trauma, neoplasm, vascular malformations, acute sinusitis and systemic abnormalities. Rarely, it can be an early manifestation of hematological disorders. It was reported to occur spontaneously in very few cases (2). In this article, we present a case report on a 2-days old neonate with spontaneous orbital hematoma for whom surgical drainage was done.

CASE REPORT

A 2-days old male neonate presented with sudden and spontaneous protrusion of the right eye. The mother had no anti-natal care follow-up, but had no problem during her pregnancy which was term. The delivery was at health center by spontaneous vaginal delivery after 3 hours of labour, and the birth weight was 3.8 kg. The eye condition started on the second day of birth. He had neither history of trauma nor bleeding from other sites. There was also no family history, and he was feeding well.

On physical examination, the vital signs were: pulse rate = 140, respiratory rate = 48 and temperature = 37.1oc. The right eye had axial proptosis of 26 mm (34mm of right eye and 8mm of left eye). The conjunctiva was injected and the inferior half of the cornea had ulcer and infiltrate because of exposure. The deep structures were difficult to be seen clearly (Figure 1).

Investigations were done and Complete Blood Count (CBC) showed only higher White Blood Cell count (WBC) while the other parameters were in normal range. Erythrocyte sedimentation rate (ESR) was 3mm/hr. We also did coagulation profile test which showed: prothrombin time (PT) = 5.1 with reference range of (10- 14 seconds), partial thromboplastin time (PTT) = 24.9 reference range of (22-27seconds) and international normalization ratio (INR) = 0.4 with reference range (0.8- 1.1). Ultrasound showed organized hematoma (Figure 2).



Figure 1: At the presentation time, with huge proptosis.

The hematoma was drained with anterior approach. The proptosis and chemosis improved progressively. He was started on topical fortified gentamicin, tropicamide, tears natural and terracotril. The globe was becoming tense and bulged, looking to have secondary glaucoma, with corneal ulcer, edema and scar. He started Diamox 40mg orally twice per day and betaxolol eye drop twice per day. Proptosis has improved and the motility is intact in all direction. The corneal ulcer and edema has also improved progressively (Figure 3). Ultrasound was repeated and it is normal, no remnant hematoma.



Figure 2: Ultrasound picture of the hematoma



Figure 3: On 2nd post op week

DISCUSSION

Orbital disease in children can be unilateral or bilateral. Most benign and malignant tumors, cysts and structural vascular anomalies occur in only one orbit. The onset of orbital lesions varies considerably from sudden to insidious depending on the nature of the disease process. Catastrophic onset, within hours to days, is seen with trauma, hemorrhage and sometimes infections. Chronic onset, over many months to years, is more likely associated with slow growing lesions such as neurogenic tumors, vascular tumors and lymphoproliferative disorders (3).

The age at the onset of orbital symptoms may vary with the specific orbital disease. Causes of orbital diseases in patients aged between 0- 20 years include cystic lesions (77%), vascular lesions (54%), infectious processes (35%), neurogenic tumors (33%), Mesenchymal lesions (25%), inflammatory lesions (12%) and others like orbital hemorrhage, congenital bony abnormalities and orbital melanocytic hamartomas (3).

Spontaneous intra orbital hematoma may also present as an early manifestation of hematological disorders. Vitamin K (VK) deficiency bleeding is bleeding due to inadequate activity of VK-dependent coagulation factors (II, VII, IX, X), correctable by VK replacement. It can cause bleeding in an infant in the first few weeks of life. The common bleeding sites are gastrointestinal, cutaneous, nasal and from a circumcision. The

proptosis of our case could be due to collection of blood in the orbit. The child did not receive a prophylactic vitamin K intramuscular injection after birth as the obstetric and neonatal care along with the compliance of prophylactic measures in rural health center is poor.

In a bleeding infant, prolonged PT together with normal fibrinogen level and platelet count are almost diagnostic of VK deficiency bleeding, rapid correction of the PT and/or cessation of bleeding after VK administration are confirmative (4). However, the results of the investigations of our case did not show such diagnosis.

There was a similar case reported in 2014 from Pakistan, a 4 month old child presented with severe, sudden spontaneous and exophthalmos of the left eye. This was preceded with one day history of multiple bruises over his body followed by profuse conjunctival bleeding. Laboratory findings revealed deranged bleeding and clotting profile. Therefore, he was diagnosed to have Vitamin K deficiency bleeding (VKDB) (5).

In conclusion, from this case, we recognize that we should consider all the possible differentials for neonates coming with proptosis. We need also to consider spontaneous orbital hematoma as one possible cause of proptosis in neonates and manage accordingly.

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