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Case Report

SPONTANEOUS NEONATAL HYPHEMA FOLLOWING PRECIPITOUS DELIVERY: A RARE CASE REPORT

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Abstract

Precipitate delivery refers to a delivery which results after an unusually rapid labour and culminates in the rapid, spontaneous expulsion of the foetus. This may be associated withintracranial haemorrhageand intraocular haemorrhage like vitreous haemorrhage and retinal haemorrhageresulting from a sudden change in intracranial pressure during rapid expulsion of the foetus. Spontaneous hyphema is rare and an underlying cause should be ruled out. Hyphema in the new born may be seen in juvenile xanthogranuloma, retinoblastoma, retinopathy of prematurity, blood dyscrasias and instrumental deliveries. Hyphema can cause rise in intraocular tension and corneal blood staining, both which can hamper vision. This is a rare case report of spontaneous hyphemaof the left eye noted three days after precipitous delivery in a full term neonate with perinatal respiratory distress. There was vitreous haemorrhage in the same eye. The hyphema completely resolved in twelve days. Review after two months showed resolution of vitreous haemorrhage. Unequal distribution of pressure during birth- the sudden release of pressure with a rapid change of intracranial pressure may be responsible for hyphema in this case. Review of literature has shown that neonatal hyphema could be associated with instrumental deliveries and precipitous delivery where prostaglandins have been used but there has been no case report of spontaneous neonatal hyphema in a precipitous delivery with no other predisposing factor for haemorrhage. Hence, candidates at risk for precipitate labour should be well monitored and new borns, born of precipitous delivery must be screened for ocular involvement, including hyphema, as its resolution is necessary for good visual prognosis.

Key words: precipitous delivery, hyphema, neonate, vitreous haemorrhage

INTRODUCTION

Hyphema in the new born may be associated with birth trauma, juvenile xanthogranuloma, retinoblastoma, retinopathy of prematurity, blood dyscrasias like leukemia and forceps delivery.^{1,2} Risk factors for birth injuries are numerous and include, macrosomia, prematurity, forceps delivery, vacuum extraction, abnormal fetal presentation, prolonged labour, and precipitous delivery.³Here is a case report of spontaneous neonatal hyphema following precipitate labour.



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CASE REPORT:

We were called to the Neonatal Intensive Care Unit to see a three day old neonate for redness of his left eye, who was delivered precipitously in an auto rickshaw. He was admitted on the third day of his birth for respiratory distress. He was a full term neonate born to nonconsanguineous parents.

Examination of his left eye revealed mild conjunctival congestion, and 75% hyphema.No other clinical details could be made out. Digitally tension seemed to be higher than right eye. There was no other bleeding manifestation. No signs of external injuries were noted. His complete blood count, bleeding time, clotting time, activated prothrombin time, prothrombin time, haemoglobin, INR, were within normal limits. Similar tests carried out in the mother were normal. There was no history of bleeding disorders in the family. Ocular Ultrasonography showed vitreous haemorrhage. There was no evidence of any retinal detachment or ridges suggestive of retinopathy of prematurity. No intra ocular mass was detected. High frequency anterior segment ultrasound done, did not reveal any soft tissue mass suggestive of juvenile xanthogranuloma. He was treated with topical 0.5% cyclopentolate and 2% dorzolamide twice daily. He was reviewed daily and the hyphema was seen to be resolving. By the tenth day there was less than 25% hyphema. There was no view of ocular fundus due to the vitreous haemorrhage. The neonate was doing well otherwise. Hyphema completely resolved in twelve days. He was discharged as his systemic condition also improved. Patient was reviewed every two weeks, to monitor resolution of vitreous haemorrhages. During these visits, the child was thriving well. His ocular examination revealed resolving vitreous haemorrhage. At the end of two months, there was complete resolution of vitreous hemorrhage.

DISCUSSION:

Despite a declining incidence of birth injuries as a result of improvement in obstetric care and prenatal diagnosis, birth trauma remain a significant cause of neonatal morbidity and mortality. Minor ocular trauma like lid oedema, sub conjunctival haemorrhage and retinal haemorrhages are common after delivery and are of no significance. Significant ocular trauma occurs in 0.19% of deliveries. Ocular injuries include corneal abrasion, corneal edema, descemet's membrane breaks, lid lacerations, hyphema, vitreous haemorrhage, Purtscher's retinopathy. These occur most commonly with forceps delivery.³

Precipitate delivery refers to a delivery which results after an unusually rapid labor (combined first stage & second stage duration is less than two hours) and culminates in the rapid, spontaneous expulsion of the fetus. Delivery often occurs without the benefit of asepsis.⁴ Precipitate delivery may cause intracranial hemorrhage resulting from a sudden change in pressure on the fetal head during rapid expulsion. It may also cause aspiration of amniotic fluid, if unattended at or immediately following delivery. There may be infection as a result of unsterile delivery.⁵Precipitous delivery may cause modified venous pressure, a postulated cause of venous haemorrhage.⁶

The complications of hyphema include corneal blood staining, elevated intra ocular pressure, optic atrophy, glaucoma and amblyopia. Corneal blood staining can be very amblyogenic as the associated corneal opacity often persists for months to a year.⁷ Traumatic hyphema was mentioned in a study of ocular hazards during birth by Jain et al in 1980, where 12% of new born suffered from birth trauma to eye and its adnexa. 11% had multiple retinal hemorrhages. Severe ocular trauma like hyphema and Purtscher's retinopathy was also reported in

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instruments assisted delivery² Karl Mercieca et al reported traumatic hyphema in a case of prolonged labour, whose delivery was assisted by forceps and vacuum extraction⁸

Neonatal hyphema in precipitous delivery with dinoprostone, was reported by Misra et al.⁹ The infant had congested iris vessel. Dinoprostone, a prostaglandin which is capable of causing vasodilation and increased permeability was suspected to be the causative factor for the hyphema. Pacious et al reported a hyphema associated with subconjuctival haemorrhage and retinal haemorrhage in a full term new born after prolonged delivery due to face presentation.¹⁰

On doing extensive online search, we have only come across case reports on hyphema secondary to instrumental deliveries and dinoprostone induced delivery. As far as we are aware, there has been no report of spontaneous hyphema in a precipitous delivery presenting on the third day of birth which itself explains the rarity of this case report. In precipitate labour, there are overly intense and prolonged uterine contractions. There is increased pressure due to this sustained intense uterine contraction, which is released suddenly, when there is rapid descent of the head during precipitous delivery. This unequal distribution of pressure during birth- the sudden release of pressure with a rapid change of intracranial pressure may be responsible for this intraocular haemorrhage in this particular case.

In conclusion, candidates at risk for precipitous labour, such as multipara with relaxed pelvic or perineal floor muscles and multipara with unusually strong, forceful contractions, may have an extremely short period of expulsion should be monitored carefully as the complications associated with this are many. Birth injuries like intracranial haemorrhage, soft tissue damage, ocular haemorrhages can occur. Neonates with hyphema should be evaluated to rule out any associated pathology and closely be monitored to avoid the hyphema associated complications like glaucoma, optic atrophy, and corneal blood staining which can be vision threatening.



a) Picture taken on Day 7 of hypema



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b) Picture taken on Day 10 of hypema

REFERENCES:

- 1. Howard GM. Spontaneous hyphema in infancy and childhood. Arch Ophthalmol 1962; 68:615-20.
- 2. Jain JS, Singh YP, Grupta SL, Gupta A. ocular hazards during birth. J of Paediatric Ophthalmol and Strabismus 1980; 17:14-6.
- 3. Michael R. Uhing, MD. Clin perinatal 32 (2005) 19-38.
- 4. Precipitate and Emergency Delivery, http://www.sweethaven02.com/PDF_Health/922les03.pdf
- 5. Precipitate and Emergency Delivery,
- http://www.brooksidepress.org/Products/Obstetric_and_Newborn_Care_II/lesson_3_Section_1.htm 6. BuckmanG.Nissenkorn I, Cohen S, Ben-SiraSchoenfeld A. I, OvadiaJ.retinalhemorrhages in the new
- born following labour induced by oxytocin or dinoprostone. Arch Ophthalmol 1982; 103:932-4.
- 7. Pediatric ophthalmology and strabismus 3rdedition. Kenneth W. Wright, MD, Yi Ning J. Strobe, sep 2012.Pg no.138.
- 8. Traumatic hyphema following successive vacuum and forceps assisted delivery. Karl Mercieca, Reshma S Thampy. Malta Medical Journal vol. 18, issue 04, dec 2006, 30- 31.
- 9. Neonatal hyphema in precipitous delivery with dinoprostone. Aseema Misra, MBBS, and Patrick Watts, MBBS,MS. Journal of American Association of Pediatric Ophthalmology and Strabismus, vol 7,no.3, june 2003.
- 10. Paciuc M, Garcia- Alonso P, Moragrega E. hyphema and vitreous haemorrhage in a new born. Ophthalmolsurg 1988; 19:680.