

Traumatic hyphaema following successive vacuum and forceps-assisted delivery

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Abstract

Hyphaema can cause corneal staining and is a potential risk for glaucoma. We report a case of a neonate with isolated traumatic hyphaema following a prolonged delivery with the consecutive use of vacuum and forceps. A review the literature discusses reports of ophthalmic injuries associated with assisted vaginal deliveries.

The case involved the prolonged labour of a term female child with vertex presentation in which a Ventouse delivery was initially attempted. The procedure was unsuccessful and eventually followed by a successful forceps delivery. Although the baby's Apgar scores were full she was noted to have mild peri-orbital swelling on the right. An ophthalmic review was thus requested and on close inspection a 25% hyphaema was noted in the anterior chamber. There was no evidence of corneal abrasion on fluorescein staining and digital intra-ocular pressure was normal. Pupils were reactive and a subsequent dilated fundal examination revealed no signs of retinal haemorrhage. Orthoptic assessment failed to reveal any abnormal preferential looking or fixation problems. The child was not prescribed topical steroids and the hyphaema resolved within three days. On subsequent out-patient reviews the hyphaema had not redeveloped and general eye examination was normal.

In the United Kingdom, the rates of instrumental vaginal delivery range between 10% and 15%.¹ Although these have remained fairly constant throughout the years, there has been a change in preference of instrument. In the 1980s most instrumental vaginal deliveries were by forceps, but by 2000 this had decreased by over 50%. A significant number of obstetricians admit to occasionally or frequently using both methods successively.²

One previous study found mentioning traumatic hyphaema was carried out by Jain *et al* in 1980 where out of more than 2,000 consecutive live births, 243 newborns (12%) suffered birth trauma to the eye and its adnexa. Two hundred twenty-one cases (11%) had multiple retinal haemorrhages. Severe ocular accidents by forceps delivery were seen in the form of hyphema, Purtscher's retinopathy, corneal oedema, facial palsy, and corneal abscess.³

A study carried out by Gardella *et al*⁴ looked at the effect of sequential use of vacuum and forceps for assisted vaginal delivery on neonatal and maternal outcomes compared with spontaneous vaginal delivery. The study compared 3741 vaginal deliveries by both vacuum and forceps, 3741 vacuum deliveries, and 3741 forceps deliveries to 11,223 spontaneous vaginal deliveries. The results showed that deliveries by sequential use of vacuum and forceps had significantly higher rates of intracranial haemorrhage, brachial plexus injury, facial nerve injury, seizure, depressed 5-minute Apgar score, need for assisted ventilation, fourth-degree tears and other lacerations, haematoma, and postpartum haemorrhage.

Keywords

Complications, hyphaema, obstetrics, trauma

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The relative risk of sequential vacuum and forceps use was greater than the sum of the individual relative risks of each instrument for intracranial haemorrhage, facial nerve injury, seizure, haematoma, and perineal and vaginal lacerations. The study thus confirmed that the sequential use of vacuum and forceps is associated with increased risk of both neonatal and maternal injury.⁴

Hyphaema is a potential risk for glaucoma, particularly if greater than 50% of the total anterior chamber volume. Close inspection of susceptible newborns' eyes and adnexa is essential and referral for an ophthalmic review mandatory if any doubt exists.

Several other studies have assessed the potential risks of assisted delivery and stressed on the need for adequate and appropriate training for the use of instruments during labour. Whereas retinal haemorrhages have been implicated in various studies and are generally a more common complication,

hyphaema has only been mentioned one study. This is the first report of isolated traumatic hyphaema after successive vacuum and forceps and highlights the potential risks of assisted vaginal delivery to the newborn and of the need for adequate selection of cases and appropriate training and experience by the obstetrician.

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