NEONATAL HEAD INJURY

1EGUNJOBIO OYELEYE EMMANUEL (B.Sc, MBBS),
2AKINTOLA ADEOLA MOSES (B.Sc, M.Sc),
3EGUNJOBIO IBUKUNOLUWA DORCAS (BMLS)

1SACRED HEART HOSPITAL, LANTORO, ABEOKUTA, NIGERIA.
2NIGERIA CANCER REGISTRY, IBADAN, NIGERIA.
3BABCOCK UNIVERSITY, OGUN STATE, NIGERIA.

Corresponding Author to EGUNJOBIO OYELEYE EMMANUEL leyemmanuel@yahoo.com, +2348069180227.

Abstract: Head injuries account for 80% or more of the traumatic injuries leading to death in children older than one year in the developed world. [1] Traumatic head injury is a common neurosurgical clinical condition which often entails different categories, be it mild, moderate or severe. This article reports the case of a day old male neonate delivered in a traditional birth attendant’s place, where he developed perinatal asphyxia and was hence difficult to resuscitate. Baby was battered to produce response by crying, neonate after some minutes was able to cry minimally and was accompanied with a few complications due to physical impacts of the battering. Neonate developed features involving scalp tenderness, scalp swelling and redness, traumatic marks on the back. It can be seen in this case there are aspects to be checked which include medical and social aspects. Injuries in pediatric age group can be said to be accidental and non-accidental.

There are arrays of possible complications that could have stemmed from the events particularly in head injury, such complications include skull fracture, hydrocephalus, meningitis, osteomyelitis (pott-puffy tumour), hyperbilirubinemia from scalp hematoma and in fact death. All these possible complications were foreseen and envisaged, hence on admission the case was handled as a matter of emergency.

The concept of Monroe-Kellie hypothesis stayed true, although the neonate barely demonstrated features of raised intra cranial pressure. Open fontanels were good advantage to neonatal head injury [8].

Social aspect worth mentioning is the ignorance of women as regards delivery in unacceptable conditions. In conclusion, traumatic head injury secondary to violent, injurious resuscitation should be discouraged.

Keywords: Traumatic head injury, traumatic injuries, accidental and non-accidental.

1. INTRODUCTION

Head injuries account for 80% or more of the traumatic injuries leading to death in children older than one year in the developed world. [1]

Traumatic head injury is a common neurosurgical clinical condition which often entails different categories, be it mild, moderate or severe. Severe head injury as it seems requires prompt care, this doesn’t connote that mild and moderate head injury are to be underrated. It is however unfortunate that in low resource countries, there are often mortalities or complex morbidities accompanying a head injury. The Pediatric Glasgow Coma Scale is used in young children. The widely used PECARN Pediatric Head Injury/Trauma Algorithm helps physicians weigh risk-benefit of imaging in a clinical setting given multiple factors about the patient—including mechanism/location of injury, age of patient, and GCS score [2]. In this article is a case report of a neonate with an obvious head injury.
2. CASE REPORT

This article reports the case of a day old male neonate delivered in a traditional birth attendant’s place, where he developed perinatal asphyxia and was hence difficult to resuscitate. Baby was battered to produce response by crying, neonate after some minutes was able to cry minimally and was accompanied with a few complications due to physical impacts of the battering. There was no APGAR score information on arrival at our secondary health care facility.

On admission, careful history was taken which was in keeping with incidents above, while on meticulous physical examination, it was discovered that the neonate developed features involving scalp tenderness, scalp swelling and redness, traumatic marks on the back.

Scalp swelling covered the superior occipital region, superior right and left parietal regions of the head. Assessment of head injured neonate with perinatal asphyxia was made.

Investigations were ordered including blood panels, and imaging (skull x-ray) and treatment was immediately commenced as regards fluid resuscitation, intravenous antibiotics and analgesics.

x-ray reported normal, no discontinuity nor depression suggestive of skull fracture.

Within two hours of stabilization, parents of the neonate requested for a compulsory discharge of their neonate, hence was signed for but counselled to allow further care in a hospital to ensure full recovery.

3. IMAGES

IMAGE 1: SHOWING SWELLING AND SCALP ERYTHEMA

IMAGE 2: SHOWING LEFT LATERAL VIEW
4. DISCUSSION

It can be seen in this case there are aspects to be checked which include medical and social aspects. Generally, injuries in paediatric age group can be said to be accidental and non-accidental. However, in this case it was reported to be non-accidental and as it was aimed to revive the dying child at birth (although ignorantly as poor technique of resuscitation), it was dangerous and harmful.

Birth injury of the skull and central nervous system can be a complication of a difficult delivery, especially following forceps or vacuum-assisted delivery. Birth trauma of the head can also mimic the appearance of a non-accidental head injury and is therefore an important differential diagnosis [3].
In the process of harmful resuscitation, the neonate could have easily deteriorated and died. There are accepted medical ways of resuscitation depending on the APGAR score at birth.

Accidentally there have been report of accounts following instrumental delivery [4]

There are arrays of possible complications that could have stemmed from the events, such complications include skull fracture, hydrocephalus, meningitis, osteomyelitis (pott-puffy tumour), hyperbilirubinemia from scalp hematoma and in fact death. All these possible complications were foreseen and envisaged, hence on admission the case was handled as a matter of emergency.

Acceptable pattern of care of head injured patients as recognized in the developed world includes evaluation of head injury with a cranial CT scan, in fact within one hour of admission if indicated. Generally, computed tomography (CT) scan is used less often than other techniques in neonatal units. However, in the acute setting, CT can be invaluable in diagnosing or excluding potentially life-threatening conditions and guiding initial management in neonates [5] and very rarely MRI. MRI is significantly contributory in assessing the neonatal brain following suspected perinatal injury [6], although for pediatric patients with open fontanels, another point of care as regards imaging is ultrasonography which also has a high specificity [7].

Therefore, imaging modalities in neonatal head injury could include x-ray, ultrasound, CT Scan, MRI. In this case, an x-ray was immediately carried out to view the integrity of the cranial bones.

Although limited with facilities in the concerned centre of care, there were maximization of available resources to ensure stabilization of the neonate, however, the managing team was well prepared to ensure prompt referral for possible neurosurgical intervention provided it was required.

The concept of Monroe-Kellie hypothesis stayed true, although the neonate barely demonstrated features of raised intracranial pressure. Open fontanels were good advantage to neonatal head injury [8]. There was prompt observation and attention paid to this case as a high priority clinical condition.

In adults, it is often clear clinically when there is progressive increase in the intracranial pressure evidenced by the popular Cushing’s triad of hypertension, bradycardia and abnormal respiration.

In this case neonate didn’t exhibit any of these features, nor was there vomiting and other features in keeping with raised intracranial pressure. Generally in children, aside core symptoms of head injury, other symptoms observed in their age group include changes in eating habits, persistent irritability or sadness, changes in attention, disrupted sleeping habits, or loss of interest in toys [9].

Social aspect worth mentioning is the ignorance of women as regards delivery in unacceptable conditions, mothers should be encouraged to attend proper hospitals accredited for healthcare delivery. Moreso, attending an acceptable hospital for care would help provide good preconception, antenatal, perinatal and post natal care. Hence, avoiding the preventable complication as seen in this case report.

In conclusion, traumatic head injury secondary to violent, harmful resuscitation should be discouraged, adequate health promotion and education should be the norm in developing countries and proper sanctions in place should be enacted concerning incompetent and unqualified care givers.

REFERENCES


