

Intrapartum Traumatic Paraplegia following Breech Delivery: A Report of Three Cases

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Summary

Arigbabu SO, Olowe SA, Ojikutu NA and Ahmed I. Intrapartum Traumatic Paraplegia following Breech Delivery: A Report of Three Cases. *Nigerian Journal of Paediatrics* 1983; 10: 61. Three cases of intrapartum traumatic paraplegia following breech delivery are reported. The three cases which consisted of one male and two female infants seen within 35 days of birth, were delivered by traditional birth attendants. Air myelography revealed a spinal block at the upper thoracic region in two of the three cases; fractures of the upper thoracic vertebrae were discovered at operation in the two cases with a block. In the third patient, a spinal radiograph revealed a fractured spine. Two of the three underwent surgery, while the third patient died from respiratory infection before she could be operated. Post-operatively, one of the two cases showed some neurological improvement, while the other one did not. The vulnerability of the upper thoracic and lower cervical spine during breech delivery is highlighted.

Introduction

DESPITE improved management of labour by obstetricians, traumatic injuries of the central nervous system still occur during birth and are reported from time to time.¹⁻³ However, birth

injuries of the spinal cord are rare.⁴ In this communication, we report three infants with paraplegia associated with spinal cord trauma acquired during delivery at home.

Case Reports

Case 1

A one-month old baby boy was referred to the Lagos University Teaching Hospital (LUTH) with the complaints of difficulty in breathing, foaming at the mouth and generalised weakness since birth. He was a product of a full-term pregnancy and was delivered at home by traditional birth attendants. Labour was prolonged

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and complicated by breech presentation. He had a weak cry at birth. Physical examination revealed a febrile child with tachypnoea and subcostal retractions. He had a spastic paraplegia and some sensory loss with a sensory level at T4-T5 dermatome. Lumbar puncture revealed a high cerebrospinal fluid protein with normal sugar and cell count. Air myelography confirmed a block at T3-T4 level.

At subsequent laminectomy, a linear fracture of the spinous process and a depressed fracture of the lamina of T3 vertebra were found. There were also some extradural and subarachnoid adhesions at that level. The spines and laminae of T2, T3 and T4 were removed and the adhesions freed. Post-operatively, there was a return of sensation to both lower limbs. In addition, the patient was able to move the right foot. He was discharged home to be followed up at the neurosurgical outpatients' clinic. Only a minor improvement in the movement of the lower limbs was observed one year after the operation.

Case 2

A one-month old baby girl presented with inability to move both lower limbs since birth. Pregnancy was full-term. Presentation was breech and delivery took place at home. Soon after birth, the mother noticed that the infant could not move both lower limbs, but did nothing about this because she hoped that the legs would improve. On examination, the abdomen was full but not distended. There was a complete spastic paraplegia. Movements and reflexes were normal in both upper limbs. There was a total sensory loss from the toe up to the level of T5 dermatome.

Air myelogram showed a block at T4 level. At operation, a depressed fracture of the laminae of T3 and T4 vertebrae was found and treated. Unfortunately, this patient did not improve and no change in her neurological status was observed during her follow-up visits to the neurosurgical clinic.

Case 3

A 35-day old female infant was first seen at the children's emergency room with a weakness of both lower limbs since birth. She was a full-term baby born at home, after a prolonged labour, by assisted breech delivery. At birth, she was asphyxiated and did not cry for about 10 hours after birth. Neurological examination showed a floppy child with microcephaly. There was a complete spastic paraplegia although active movements could be elicited in both upper limbs. She had a sensory deficit from the level of T2 dermatome. She foamed at the mouth and was very dyspnoeic. Spinal x-rays showed fractures of T2-T4 laminae and chest radiograph showed bilateral bronchopneumonia. The child died before further investigations and operation could be carried out. Consent for an autopsy was refused by the parents.

Discussion

The true incidence of obstetrical injury to the spinal cord is difficult to determine⁵ but it would appear to be rare.⁴ In the twenty years preceding the presentation of our first patient, no case of birth injury to the spinal cord was recorded in this hospital. However, this rarity could be due to under- or mis-diagnosis as most autopsies of the newborn do not normally involve the spinal cord. Furthermore, since severe perinatal asphyxia may be associated with spinal cord injury, the paediatrician may confuse the latter with the former diagnosis when confronted with a floppy infant at birth.

Two features common to all the patients in the present study can help in explaining the mechanism of the spinal cord injury. First, they were all breech deliveries. Breech presentation has long been known to be associated with an increased perinatal mortality and morbidity.⁶ Breech delivery is associated with approximately 75% of the recognised neonatal spinal injuries and when hyperextension of the head complicates

breech presentation, spinal cord transection can occur in about 25% of such infants delivered vaginally.⁷ The spinal injury is thought to occur through excessive longitudinal traction combined with flexion or torsion of the spinal axis. The fact that our patients were floppy from birth, supports our view that the spinal cord was damaged through faulty techniques used in the delivery of these children with breech presentation. Fractures in the upper thoracic vertebrae were demonstrated at operation in two of the patients and by radiograph in the third. The present findings are in consonance with the theory by Towbin,⁸ that when spinal injury occurs in breech delivery, the usual sites are in the cervical and upper thoracic vertebrae.

The incidence of reported intrapartum spinal cord injury has decreased over the past few decades through an increased appreciation of the dangers associated with breech presentation and acknowledgeable management of difficult labour by obstetricians.⁵ It is, therefore, significant that all our three patients were delivered at home by traditional birth attendants who have little knowledge of human anatomy. Perhaps, these birth injuries might have been avoided if the infants were delivered in hospital. It is also significant that all our three cases were seen within a period of one year. However, it should be noted that the three deliveries were not undertaken by the same attendant.

The prognosis for intrapartum spinal cord

injury is poor as illustrated by the present cases. "Prevention is better than cure" is a very apt advice in this instance. It is therefore, recommended that if traditional birth attendants must continue to deliver babies at home, they should be educated to recognize and refer any breech presentation to hospitals. Furthermore, even in hospitals, breech deliveries should not be taken lightly, but be handled by a team of obstetricians, radiologists, anaesthetists and paediatricians. Where this is not possible, the most competent person available in the hospital should deliver such a foetus.

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