

# Orthopaedic Birth Injuries In A Nigerian Hospital

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## Citation

J Ogunlusi, I Ikem, O Ogunlusi. *Orthopaedic Birth Injuries In A Nigerian Hospital*. The Internet Journal of Pediatrics and Neonatology. 2007 Volume 8 Number 2.

## Abstract

This study was conceived with the purpose of finding out why there was unusual increased in the neonatal fractures and Erb's palsy as seen in the outpatient. This was a 21 month retrospective study done at Wesley Guild Hospital Ilesa- an annex of a Nigerian teaching hospital. The clinical records of patients with orthopaedic birth injuries were reviewed. Information about gender, time of presentation, obstetric history of the pregnancies, management and outcome of the injuries. Eleven cases of orthopaedic birth injuries in 11 deliveries were recorded, 1 humeral fracture, 5 femoral shaft fractures and 5 Erb's palsies. The fractures were diagnosed within 2 days of birth and they were managed conservatively with consolidation of fracture within 3 weeks while the neural injuries presented late with poorer outcome. It was noted that there was no antenatal care for pregnancies in eight poor mothers who are primary and secondary school-drop-outs. It was concluded lack of antenatal care which is a risk factor of birth injuries is seen in low income earners and mothers with low level of education and thus the health provider(s) should make health care delivery accessible and affordable.

## INTRODUCTION

Injuries sustained at birth has been given different names such as birth trauma and obstetrical injuries and they are associated with different etiological causes.<sup>1,2</sup> The important causes of these injuries has been associated with various etiological factors which are macrosomia, breech presentation, shoulder dystocia, and forceps-assisted deliveries have all been implicated.<sup>3</sup> The incidence of major trauma was 3.16% in Finland.<sup>1</sup> The injuries include fractures of long and short bones<sup>4,5</sup> and even depressed skull and orbital fracture<sup>6</sup>, neural injuries, like Erb's palsy, facial nerve injury<sup>7</sup>, other include laceration and even castration!<sup>8</sup> The commoner injuries are fracture of the clavicle and Erb's palsy.<sup>1,6</sup> Early detection and prompt management is important in these pathologies. The study was conceived to know why when most of the injuries were seen in babies of low socio economic mothers and to advise accordingly.

## METHODS

This is a retrospective study. The clinical notes of patients with orthopaedic birth injuries between March 2002 and November 2004 at the Wesley Guild Hospital, Ilesa, Nigeria were analysed. The analysis was done on the basis of time of presentation, sex, age, aetiology, ante natal history of the pregnancies, and mothers' educational background and parity, treatment and outcome of management of the birth injuries. Clinical notes with doubtful records and documentation were

excluded from the study.

## RESULT

In this study, 11 patients in 11 deliveries with orthopaedic birth injuries were seen and males were 7 while the females were 4, the Male: Female ratio was 1.75:1. There were 382 live births within the period of study. The injuries included 6 fractures, comprising 5 femoral shaft fractures and 1 humeral shaft fracture; and 5 Erb's palsy. The problems were picked up between 1 to 25 days of delivery with mean of  $7.55 \pm 7.62$  days. Deliveries were at different places including farm! Church=3, private nursing/hospitals =3 and 4 at the study center (a University teaching hospital)

## Figure 1

Table 1: Types of birth injuries and method of delivery

| Types of birth injury | Method of delivery                     |
|-----------------------|--|
| Fractures -6          |  |
| Femur = 5             | 4 Assisted Vaginal Deliveries + 1 ELCS |
| Humerus =1            | Assisted Vaginal Delivery              |
| Clavicle = 0          |  |
| Nerve injury-5        |  |
| Erb's palsy =5        | All were Assisted Vaginal Deliveries   |

ELCS= Emergency Low Caesarian Section

The mean age of the mothers was  $28.36 \pm 7.4$  years and their parity was between 1 to 6 and with mean of  $3.55 \pm 1.44$ . The pregnancies were termed but no ante natal care in eight mothers. The eight mothers were primary and secondary school drop-outs who were engaged in petty trading for survival. The weight of the babies ranged between 1.75 kg to 4.2 kg with mean of  $2.9 \pm 0.81$  kg.

The fractures were treated with simple back slap Plaster of Paris and all healed satisfactorily within 6 weeks but the Erb's palsies were treated with physiotherapy by the mother and the physiotherapist. Recovery was slow and at 6 months post injury full recovery has not occurred.

### DISCUSSION

In this study, fractures accounted for the major orthopaedic injuries of which femoral fractures were 5 and there was 1 humeral fracture, this is different from other studies where clavicular fracture has been noted to be commonest birth injury.<sup>1,6</sup> Nine of the deliveries were assisted deliveries resulting into 4 fractures and 5 Erb's palsies. Traumatizing maneuvers during the deliveries would have accounted for these pathologies in the assisted deliveries thus supporting previous study by Camus et al.<sup>4</sup> It was found that diagnosis and presentation of those with fractures were within 2 days while those with Erb's palsy presented late with mean of  $7.55 \pm 7.62$  days. A patient actually presented on the 25<sup>th</sup> day of delivery even though the mother was aware that there was problem with the upper limb involved. The difference in time of presentations might be because the fracture was painful and the neural injury was painless. The mothers of the patients with neural injuries brought the patients to the hospital late because they thought that the anomaly is self-limiting and recovery will eventually occurred. Four of the patients were products of multiple pregnancies (the injuries were not influenced by whether the patient was first or second twin), 3 of which had femoral shaft fracture and the other Erb's palsy, 3 of these products of multiple pregnancies were of low birth weight.

In this study birth injuries were associated with multiple pregnancies and low birth weight as reported in other places.<sup>5, 9</sup> Eight of the mothers were primary and secondary school drop-outs, and petty traders with very low income. They had no ante natal care before delivery. One of the deliveries of those poor pregnant women was in the farm! and the baby had femoral shaft fracture. The low level of education and poverty would have accounted for inability to receive ante natal care and would have led to deliveries at poorly

equipped centers and poor delivery techniques which would have caused the birth injuries. All fractures were treated and satisfactory early fracture healing was achieved within 6 weeks this agrees with reports from other places.<sup>9,10</sup> It has been suggested that patients with fracture of the clavicles should be thoroughly evaluated to rule out damage to brachial plexus as well.<sup>4</sup> In this study none of the five patients with Erb's palsy had clavicular fracture. The poor outcome of the Erb's palsies might not be unconnected to the late presentation of the patients.

Lack of antenatal care has been identified as one of the risk factors to development of birth injury.<sup>11</sup> In this study the eight of the pregnancies lacked antenatal care and this could be due to poverty, poor level of education and ignorance on the importance of ante natal care.

Early identification of obstetric factors and improvement in obstetric care of both the mothers and babies during delivery and stoppage of traumatising manoeuvres particularly in the hands of the inexperienced would reduce the incidence and severity of this disability. Educating the pregnant women about the importance of antenatal care will play an important part in the reduction of this pathology. It will be important to examine the neonates thoroughly after deliveries to detect birth injuries and manage promptly.

There should be provision of accessible and affordable quality obstetrics services all over the federation. Also vulnerable cases should be identified early and referral made to appropriate level of pregnancy care.

### CORRESPONDENCE TO

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### References

1. Salonen IS, Uusitalo R. Birth injuries: incidence and predisposing factors. *Z Kinderchir.* 1990 Jun;45(3):133-5.
2. Camus M, Lefebvre G, Veron P, Darbois Y. Obstetrical injuries of the newborn infant. Retrospective study apropos of 20,409 births. *J Gynecol Obstet Biol Reprod (Paris).* 1985;14(8):1033-43.
3. Buschmann WR, Sager G. Orthopaedic considerations in obstetric brachial plexus palsy. *Orthop Rev.* 1987 May; 16(5):290-2.
4. Al-Habdan I. Birth-related fractures of long bones. *Indian J Pediatr.* 2003 Dec;70(12):959-60.
5. Morris S, Cassidy N, Stephens M, McCormack D, McManus F. Birth-associated femoral fractures: incidence and outcome. *J Pediatr Orthop.* 2002 Jan-Feb;22(1):27-30.
6. Bhat BV, Kumar A, Oumachigui A. Bone injuries during

- delivery. Indian J Pediatr. 1994 Jul-Aug;61(4):401-5.
7. Ndiaye O, Diack/Mbaye A, Ba M, Diouf L, Sow HD, Fall M. [Facial nerve paralysis in the newborn infant: apropos of 8 cases] Dakar Med. 1997;42(2):162-4.
8. George S. Castration at birth. BMJ. 1988 Nov 19;297(6659):1313-4
9. Nadas S, Gudinchet F, Capasso P, Reinberg O. Predisposing factors in obstetrical fractures. Skeletal Radiol. 1993;22(3):195-8.
10. Nadas S, Reinberg O. Obstetric fractures. Eur J Pediatr Surg. 1992 Jun; 2(3):165-8.
11. Bhat V, Ravikumara, Oumachigui A. Nerve injuries due to obstetric trauma. Indian J Pediatr. 1995 Mar-Apr; 62(2):207-12.

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