Fetal vulva laceration during attempted vaginal breech delivery

Matthew Abubakar Akpa, Oladele Joshua Alabi, Simon Peterside Onuche Akogu, Temitope Olumide Odi

ABSTRACT

Introduction: Trauma to the fetal vulva and perineum is an infrequent and life-threatening complication of breech presentation. The objective of this case report is to highlight the possibility of such injury, need for proper training of health personnel, and draw attention to the issue of malpractice and litigation.

Case Report: Consent for this study and medical photographs was obtained from the patient. We present a case of a 28-year-old G5P1+3 non-alive patient with one previous Caesarean section who presented with antepartum hemorrhage and breech presentation of the fetus at term. She subsequently had emergency repeat lower segment caesarean section done and a live baby was delivered. Baby was examined and perineal and vulva laceration with vulva hematoma seen. This complication was subsequently managed with good outcome.

Conclusion: Trauma to the genitalia and perineum of the fetus though a rare complication of delivery can occur as a result of poor health seeking behavior and lack of skilled birth attendants resulting in malpractice. Education, community sensitization, adequate training of staff, appropriate staffing, and equipping of hospitals can go a long way to avoid this complication.

Keywords: Breech delivery, Malpractice, Perineal abrasion, Vulva laceration

INTRODUCTION

Trauma to the fetal vulva and perineum is an infrequent and life-threatening complication of breech presentation [1, 2]. It can occur during artificial rupture of membrane, assisted breech delivery by untrained staff [3], attempt to manually rotate the fetus from an abnormal position [4] and during caesarean section [1].

Trauma to the perineum is part of a group of injuries that can affect the neonate at birth. These injuries occur with varying frequencies in developed and developing countries with incidence decreasing in developed countries due to improved health care [5].

The incidence in the United States varies from 0.2 to 37 birth traumas per 1000 births [6]. This country has 99% [7] of deliveries being attended to by skilled birth attendants and the caesarean section rate is 31.9% [8]. In Iran, the incidence of birth trauma is 0.2–41.2% per 1000 births [9], while 99% of deliveries are attended by skilled birth attendants [7] and the caesarean section rate is 48% [10]. By contrast, in Nigeria, the incidence of birth trauma ranges between 5.7 per 1000 live births in Maiduguri (with scrotal/vulva injuries forming 6.6% of...
the total birth injuries) [5] to 6 per 1000 live births in South Western Nigeria [11], while only 43% [7] of births are attended by skilled birth attendants and the caesarean section rate is 21.4% (Table 1) [12].

Table 1: Showing relationship between incidence of birth trauma and quality of obstetric care indicators for developing and developed countries

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Country</th>
<th>Iran</th>
<th>USA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth injuries/1000 births</td>
<td>Nigeria</td>
<td>5.7–6</td>
<td>0.2–41.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.2–37</td>
<td>0.2–37</td>
</tr>
<tr>
<td>Delivery by skilled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>attendant (%)</td>
<td>43</td>
<td>99</td>
<td>99</td>
</tr>
<tr>
<td>Caesarean section rate (%)</td>
<td>21.4</td>
<td>48</td>
<td>31.9</td>
</tr>
</tbody>
</table>

There is sparse literature on birth injuries in Nigeria and these injuries are associated with significant morbidity and mortality [13]. Birth injuries are mostly iatrogenic and have legal implications. They occur even with the best prenatal care. Therefore, it is important to document properly. Team work between the obstetric and pediatric clinician in explaining birth injuries to patients will go a long way to minimize litigation [14, 15].

We present an unfortunate case of neonatal birth injury from a developing country highlighting peculiar risk factors and environmental disadvantages.

**CASE REPORT**

Mrs. AS was a 28-year-old gravida 5 P1+3 none alive with history of one previous caesarean section. Her estimated gestational age was 39 weeks and two days and she was unbooked and had no investigations done in this pregnancy. She was referred from a peripheral health clinic by a community health extension worker after 8 hours of labor on account of antepartum hemorrhage. She had several vaginal examinations done prior to onset of vaginal bleeding.

Examination at presentation revealed a young woman who was in painful distress, moderately dehydrated, not pale, afebrile, and no pedal edema. Her blood pressure was 100/80 mmHg and pulse rate was 96/minute regular and good volume. The abdomen was gravidly enlarged, there was a midline infraumbilical scar. Symphysiofundal height was 39 cm, lie was longitudinal, and the presentation was breech with descent of 4/5. She was having mild to moderate uterine contractions and fetal heart rate was 148 beats per minute and regular. Pelvic inspection revealed blood stained vulva and vagina, there were no vulva laceration or edema. Digital pelvic examination was not done on account of the previous history of caesarean section and presenting history of vaginal bleeding. Ultrasound examination was immediately done to localize the placenta and the findings were of an anteriorly placed placenta and a live fetus in longitudinal lie and breech presentation at 39 weeks. There was oligohydramnios.

A decision was taken to have her delivered by emergency caesarean section on account of previous history of caesarean section and current breech presentation with vaginal bleeding. Her packed cell volume was 30% and urinalysis was negative for protein and glucose. Electrolytes, urea, and creatinine were within normal limits. One unit of blood was grouped and cross-matched. She was subsequently delivered of a live female neonate with APGAR of 5 and 8 at 1 and 5 minutes respectively weighing 3.2 kg. Examination of the baby revealed moderate pallor and laceration of the left vulva with active bleeding from the laceration and hematoma of the right vulva (Figure 1). There was abrasion of the skin of the lower back and upper quadrant of the gluteus on the left (Figure 2). Urgent packed cell volume done for the baby was 22%. The baby was kept warm and wound cleaned with antiseptic. The vulvar laceration was immediately sutured (Figure 3), an intravenous line was set and intravenous antibiotic ceftriaxone 125 mg 12 hourly for five days was administered. Anemia was corrected by transfusing 30 mL of packed cells over six hours and topping up the transfusion with 15 mL of packed cells the following day. The wound on the skin was cleaned daily with antiseptic and clean dressing applied.

The baby and mother were discharged home at five days post-operation. The mother was advised on the need for contraception to delay conception for at least 18–24 months and to book for antenatal care in her next pregnancy and the relevance of elective caesarean section for subsequent pregnancies. She was seen at the postnatal clinic at two weeks postpartum. The incision was well apposed with good healing and the baby was healthy looking with healing of the vulva laceration and good skin covering over the areas of previous excoriation (Figure 4).

![Figure 1: Showing vulva laceration on left vulva and hematoma on right vulva.](image-url)
DISCUSSION

Trauma to the genitalia and perineum is a rare complication of delivery. It is more common in malpresentations like breech and during difficult delivery especially manipulations to correct malpresentation [16]. This was the case with Mrs. AS.

The types of injury which can occur include soft tissue injury like erythema, abrasion, ecchymosis, bruising, petechiae, hematoma, fat necrosis, laceration, and perineal tear. Other injuries involving the genitalia include vulva laceration and hematoma in females, scrotal and testicular injury (edema, hematoma) and castration in males [3, 14, 15, 17] (Table 2). The baby had skin abrasion with laceration on the left vulva and hematoma of the right vulva.

Table 2: Types of birth injury to the perineum of the neonate

<table>
<thead>
<tr>
<th>Soft tissue injury</th>
<th>Injury to genitalia and anus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erythema</td>
<td>Vulva laceration</td>
</tr>
<tr>
<td>Abrasion</td>
<td>Vulva hematoma</td>
</tr>
<tr>
<td>Ecchymosis</td>
<td>Castration</td>
</tr>
<tr>
<td>Bruising</td>
<td>Scrotal edema</td>
</tr>
<tr>
<td>Petechiae</td>
<td>Anal laceration</td>
</tr>
<tr>
<td>Hematoma</td>
<td></td>
</tr>
<tr>
<td>Fat necrosis</td>
<td></td>
</tr>
<tr>
<td>Laceration</td>
<td></td>
</tr>
<tr>
<td>Puncture</td>
<td></td>
</tr>
</tbody>
</table>

Poor health seeking behavior in developing countries like Nigeria, lack of adequate facilities, and well-staffed hospitals are major contributing factors [13, 18]. Mrs. AS was unbooked, had no investigations done because the referral center, did not have the facilities, and her labor was attended to by an unskilled birth attendant who performed several vaginal examinations on the patient in labor leading to perineal abrasion and vulva hematoma and laceration in the neonate. A similar case was reported in India where a breech delivery was conducted by the local traditional healer [17]. This scenario is a common malpractice in developing countries [19].

Prompt management of vulva injuries is important as neglect may lead to infection and sepsis with fatal consequences. A neglected vulva hematoma may lead to rapid increase in size and hemodynamic instability [18, 20].

Management of vulva injuries depends on the severity. Options range from conservative management using local dressing, ice packs for hematoma, and antibiotics [3] to minor surgeries like suturing of laceration. Infected wounds from late presentation require debridement and antibiotics. More extended injuries have been managed using diverting stoma and primary repair [4]. Oftentimes there may be associated injuries that will require additional treatment measures like orthopedic and
physiotherapy [21]. Baby AS was managed with primary repair of laceration, antibiotics, wound dressing, and blood transfusion.

Prognosis is affected by extent of injuries, time of presentation, and institution of management. More severe injuries and late presentations worsen prognosis [1, 3, 4]. Early presentation and prompt treatment leads to a better outcome. The injuries to baby AS were severe but not extensive and the baby was immediately attended, thus, the quick and uneventful recovery.

This case report is unique as there is scarce literature in our environment on vulvar laceration and perineal abrasion.

This report highlights the ever-present danger of poor health seeking behavior and lack of trained/skilled personnel to manage deliveries. These associations were noted by Adegbehingbe and co-workers in Ife, Nigeria [22].

In ensuring that all the above recommendations are met, the stakeholders will ensure that the World Health Organization recommendation which states that “all pregnant women have the right to obtain high quality antenatal care and birthing service” [23], would be achieved!

CONCLUSION

The case of baby AS highlights the peculiar situation of developing countries. Such complications of delivery can be prevented by health education, adequate staff training, and provision of adequately staffed and equipped health facilities to the rural areas.

REFERENCES

indicator/SH.STA.BRTC.ZS]
Author Contributions
Matthew Abubakar Akpa – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved
Oladele Joshua Alabi – Design of the work, Analysis of data, Interpretation of data, Drafting the work, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved
Simon Peterside Onuche Akogu – Design of the work, Interpretation of data, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved
Temitope Olumide Odi – Design of the work, Analysis of data, Interpretation of data, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Guarantor of Submission
The corresponding author is the guarantor of submission.

Source of Support
None.

Consent Statement
Written informed consent was obtained from the patient for publication of this article.

Conflict of Interest
Authors declare no conflict of interest.

Data Availability
All relevant data are within the paper and its Supporting Information files.

Copyright
© 2020 Matthew Abubakar Akpa et al. This article is distributed under the terms of Creative Commons Attribution License which permits unrestricted use, distribution and reproduction in any medium provided the original author(s) and original publisher are properly credited. Please see the copyright policy on the journal website for more information.
Submit your manuscripts at
www.edoriumjournals.com