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Management of Retained Fetal Head Due to Severe Hydrocephalus in a Breech Delivery: A Case Report

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CASE STUDY

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Abstract

Background
Retained fetal head during breech delivery is a rare but serious complication, often exacerbated by undiagnosed fetal hydrocephalus. This condition poses significant risks for both mother and fetus, particularly in settings with limited access to antenatal care.

Case Presentation
A 40-year-old multiparous woman (G7P6A1) at 38 weeks of gestation presented in active labor with no prior prenatal care or ultrasound. She had complete cervical dilation and a breech presentation. Vaginal delivery was attempted but complicated by head retention due to severe fetal hydrocephalus. After failed maneuvers, an emergency cesarean section was performed, extracting a 5 kg stillborn fetus with major hydrocephalus. The procedure was complicated by maternal anemia (Hb 6 g/dL), requiring a blood transfusion.

Discussion
This case emphasizes the importance of antenatal care, including routine ultrasounds, to detect anomalies such as hydrocephalus. The absence of prenatal diagnosis resulted in a delayed cesarean delivery and complications. Prompt surgical intervention and adequate maternal care were essential in managing this emergency.

Conclusion
Undiagnosed fetal hydrocephalus significantly increases the risk of labor complications, particularly in breech deliveries. Routine antenatal imaging and emergency obstetric preparedness are vital to reducing maternal and fetal morbidity, especially in resource-limited settings.

Key Words: Retained Fetal Head, Hydrocephalus, Breech Delivery, Cesarean Section, Antenatal Care.

Introduction

Breech presentation at term, occurring in 3–4% of singleton pregnancies, poses significant risks, including fetal head entrapment, especially in cases of fetal anomalies such as hydrocephalus. Severe hydrocephalus, marked by excessive cerebrospinal fluid accumulation, can cause an abnormally enlarged fetal head, complicating both vaginal and cesarean delivery. Prenatal ultrasound is essential for detecting hydrocephalus and planning delivery, often favoring cesarean section to reduce complications. However, in resource-limited settings with poor access to antenatal care, these anomalies may go undiagnosed, leading to obstetric emergencies during labor [1].

This case report highlights the management challenges of a multiparous woman presenting in labor with undiagnosed severe fetal hydrocephalus and breech presentation, emphasizing the critical role of prenatal care and emergency preparedness.

Case Présentation

A 40-year-old multiparous woman, G7P6A1, presented at 38 weeks of gestation with no prenatal care. The patient had a history of five term vaginal deliveries without complications. She was admitted to the labor ward due to labor pains resembling contractions. On admission, she was conscious, well-oriented, and hemodynamically stable.

A vaginal examination revealed full cervical dilation with a complete breech presentation. An urgent ultrasound to assess the fetal biparietal diameter and head circumference could not be performed due to the imminent nature of delivery. Vaginal delivery was attempted.

The progression of labor included engagement of the breech and delivery of the fetal trunk and arms; however,

the fetal head became retained. Multiple maneuvers, including Lovset and Bracht techniques, were attempted but failed. The application of forceps was also deemed impossible due to the size and rigidity of the fetal head.

The patient was immediately transferred to the operating room for an emergency cesarean section under general anesthesia. A Pfannenstiel incision and median hysterotomy were performed, leading to the delivery of a stillborn fetus with sévère hydrocéphales weighing 5 kg (**Figure 1**).

Intraoperative findings revealed profound maternal anemia (Hb = 6 g/dL), necessitating blood transfusion. The remainder of the cesarean procedure was completed without incident. Postoperative recovery was uneventful.

Discussion

The case of a 40-year-old multiparous woman presenting with a complete breech at term, complicated by undiagnosed severe fetal hydrocephalus, underscores several critical aspects of obstetric care, particularly in resource-limited settings [2].

Breech Presentation and Associated Risks

Breech presentation at term occurs in approximately 3–4% of singleton pregnancies and is associated with increased perinatal morbidity and mortality. Vaginal delivery in such cases carries risks including umbilical cord prolapse, birth asphyxia, and traumatic injuries. The presence of fetal anomalies, such as hydrocephalus, exacerbates these risks, often necessitating cesarean delivery to mitigate potential complications [3].

Fetal Hydrocephalus and Obstetric Implications

Fetal hydrocephalus, characterized by an abnormal accumulation of cerebrospinal fluid within the brain ventricles, can lead to significant enlargement of the fetal head. This condition complicates both vaginal and cesarean deliveries due to the increased head circumference. In breech presentations, the after-coming head may become entrapped, leading to prolonged labor and potential fetal hypoxia. Early detection through prenatal imaging is crucial for planning the mode of delivery and reducing associated risks [4].

Importance of Antenatal Care

The absence of prenatal care in this case resulted in the undiagnosed severe hydrocephalus, leading to an unanticipated obstetric emergency. Routine antenatal visits and ultrasounds are essential for identifying fetal anomalies, allowing for appropriate counseling and delivery planning. In resource-limited settings, barriers to accessing antenatal care contribute to higher incidences of undiagnosed fetal conditions, underscoring the need for improved healthcare infrastructure and education [5,6].

Management of Retained After-Coming Head

The retention of the after-coming head in breech deliveries, especially due to hydrocephalus, presents a significant challenge. Traditional maneuvers, such as the Mauriceau-Smellie-Veit and Bracht techniques, may be ineffective in cases of significant head enlargement. In such scenarios, emergency cesarean section becomes necessary. However, the success of this intervention depends on timely decision-making and the availability of surgical expertise [7].

Maternal Outcomes and Postoperative Care

The profound maternal anemia observed intraoperatively (hemoglobin level of 6 g/dL) highlights the importance of comprehensive maternal assessment and preparedness for potential complications. Intraoperative blood loss, combined with pre-existing nutritional deficiencies, can lead to significant morbidity. Prompt recognition and management, including blood transfusion and postoperative monitoring, are vital for optimal maternal outcomes [8 ,9].

Conclusion

This case underscores the devastating impact of inadequate prenatal care on maternal and fetal outcomes. Routine antenatal imaging could have identified severe hydrocephalus, enabling planned cesarean delivery and avoiding complications. Furthermore, obstetric teams must be equipped to manage emergencies like fetal head retention. Strengthening prenatal care services in resource-limited settings is essential to prevent similar cases.

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Figure

Figure 1 : Severe Fetal Hydrocephalus Complicating Breech Delivery with Retained Fetal Head

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