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CASE REPORT

A rare case of Obstructed Labor and Prune belly Syndrome-case study

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ABSTRACT

Prune Belly Syndrome (PBS) is a rare congenital condition, occurring in approximately 3.8 per 100,000 live births, with 95% of cases affecting males. It is characterized by a triad of abdominal wall muscle deficiency, urinary tract anomalies, and cryptorchidism. PBS often results in poor neonatal outcomes due to complications such as pulmonary hypoplasia, renal failure, and other congenital anomalies. o discuss the challenges posed by PBS, particularly in low-resource settings where antenatal care (ANC) is inaccessible, and its association with obstructed labour and poor perinatal outcomes. A detailed review of a clinical case involving PBS and obstructed labour, supplemented with a discussion of existing literature on the syndrome's incidence, prognosis, and the role of antenatal screening. The prognosis for PBS remains poor, with high rates of stillbirth and early neonatal death. Routine use of anomaly screening has improved early detection and enabled better management, but lack of access to ANC in rural areas contributes to severe complications such as obstructed labour. Emergency cesarean sections may be required for delivery, but they do not mitigate the poor outcomes associated with advanced fetal anomalies. The case highlights the critical need for universal access to antenatal care and routine fetal anomaly screening. Early detection of PBS can enable informed decision-making and improve maternal and neonatal outcomes. Efforts must focus on addressing healthcare disparities in rural and underserved areas to reduce the burden of perinatal mortality associated with conditions like PBS

Keywords: Prune Belly Syndrome, obstructed labour, congenital anomalies, antenatal care, fetal anomaly screening.

INTRODUCTION

A serious birthing issue known as "obstructed labor" happens when the fetus does not pass through the birth canal in spite of intense uterine contractions. Mechanical causes such as cephalopelvic disproportion, fetal malpresentation, or abnormalities in the fetus or mother's pelvis are frequently the cause of this disorder. Obstructed labor can result in obstetric fistulas, postpartum hemorrhage, stillbirth, and uterine rupture, among other severe effects for both the mother and the newborn if left untreated (AbouZahr, 2003). In order to reduce risks to the mother and fetus, obstructed labor management calls for prompt diagnosis, availability to emergency obstetric care, and suitable interventions.

Prune Belly Syndrome (PBS), a congenital condition marked by the triad of abdominal muscle weakness, urinary system abnormalities, and cryptorchidism in male babies, is an uncommon but important cause of obstructed labor. During labor, a bloated abdomen brought on by ascites or severe urinary tract dilatation may result in mechanical blockage. Despite being uncommon, PBS's link to obstructed labor highlights the importance of prenatal care and ultrasound evaluations to spot fetal abnormalities that can make delivery more difficult (Duchen et al., 2013).Early birth planning at a tertiary care facility can improve outcomes for both the mother and the newborn when PBS is discovered during pregnancy. However, untreated PBS can result in life-threatening complications for both the woman and the fetus in settings with inadequate resources or unplanned pregnancies, as demonstrated by cases of obstructed labor necessitating emergency treatments. (Reid and others, 2018)

CASE STUDY

Clinical presentation

Mrs. VD, a 24-year-old multigravida (G4P3L3) with a history of three previous home deliveries, presented to the labour room in obstructed labour. She was completely unbooked and uninvestigated during her current pregnancy. Upon arrival, the fetus's head and one arm were visible outside the introitus, indicating advanced labour complicated by an obstruction

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On examination, Mrs. VD was in significant distress and agony. Her vital signs were stable. Abdominal examination revealed:

Overdistended Abdomen: The abdomen was distended side-to-side, with a fundal height corresponding to 32 weeks of gestation

Uterine contractions: She was experiencing strong, regular uterine contractions.

Fetal Heart Sounds: Not localized using a Doppler

A bedside ultrasound revealed a grossly distended fetal abdomen, raising concerns about a fetal anomaly

Local examination:

On vaginal examination, the following findings were noted. The fetal head and one arm were lying outside the introitus. The cervix was fully dilated. A tense, cystic mass was palpable at the level of the fetal neck and trunk, obstructing further descent. No masses were detected in the vagina.

Given the obstructed labour with visible fetal anomaly, the decision was made to perform an emergency caesarean section. The modified Patwardhan technique was employed due to the advanced stage of fetal descent and the presence of fetal abnormalities

A congenitally anomalous male fetus was delivered with a grossly distended abdomen, consistent with the prenatal ultrasound findings. The fetus exhibited features suggestive of severe abdominal distension, likely secondary to congenital anomalies. Despite the critical nature of the delivery, the neonate was stillborn.

Following the delivery, the parents declined an autopsy examination of the fetus, limiting further investigation into the exact nature of the fetal anomalies. The mother's postoperative recovery was uneventful, and she was discharged in stable condition after routine postpartum care.

Figure 1

Figure 2

DISCUSSION

With an incidence of roughly 3.8 per 100,000 live births, Prune Belly Syndrome is an uncommon congenital condition that primarily affects boys (95% of cases) (Linde et al., 2004). Bilateral cryptorchidism, genitourinary tract abnormalities, and a lack of abdominal wall muscle are the syndrome's defining characteristics. Although the exact cause of PBS is unknown, it is believed to have a genetic foundation, maybe including abnormalities in the mesodermal development of the embryo (Duchen et al., 2013).

Infants with PBS have an extremely bad prognosis. Due to serious issues including pulmonary hypoplasia, renal failure, or related congenital abnormalities such heart defects and gastrointestinal malformations, the majority are either stillborn or die during the neonatal period (Reid et al., 2018). One of the main causes of neonatal mortality is pulmonary hypoplasia, which is frequently brought on by protracted oligohydramnios as a result of obstructive uropathy.

Pregnancy-related PBS identification has been greatly enhanced by developments in prenatal care, especially routine ultrasonography-based abnormality screening. Early counseling on prognosis, delivery planning, and options including termination in extreme circumstances is made possible by prenatal diagnosis. According to studies, the regular use of anomaly screening has significantly increased the number of pregnancies that are terminated, which lowers the perinatal mortality rate from PBS (Manning et al., 2010).

However, access to prenatal care (ANC) and ultrasound screening is still a major obstacle in low-resource settings, especially in rural areas. Obstructed labor brought on by fetal abnormalities, such as PBS, in which the fetal abdomen can function as a mechanical obstruction, is one of the difficulties that women who arrive with unplanned pregnancies frequently experience. The prognosis in these situations is bleak because there are few timely therapies available to avoid perinatal mortality. Improving maternal and fetal outcomes in these groups requires bolstering ANC programs and guaranteeing access to ultrasonography for early abnormality diagnosis.

The following actions are advised in order to address the difficulties related to PBS and its effect on maternal and newborn outcomes:

Universal Access to Antenatal Care: Early detection of fetal abnormalities depends on the expansion of ANC services, particularly in underserved and rural areas.

Regular ultrasound screening: Timely identification of PBS and other congenital diseases can be made possible by integrating routine abnormality scans into conventional prenatal regimens.

Parental counselling: Giving families information on PBS, such as its prognosis and available treatments, can help them make well-informed decisions.

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Emergency Care for Obstetrics: Improving emergency obstetric services can aid in the management of issues such fetal abnormalities that impede labor.

CONCLUSION

PBS is a prime example of how important prenatal care is in detecting and treating congenital defects that endanger the health of both the mother and the fetus. The lack of access to prenatal care in rural regions contributes to avoidable perinatal death linked to illnesses like PBS, even if early detection and planned therapies can improve outcomes. Reducing maternal and newborn deaths worldwide requires addressing these discrepancies.

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