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(CASE REPORT)

Large Sacrococcygeal Teratoma in a New Born: A Case Report

Adelina Geofrey Rutashobya and Pius David Muzzazzi *

Department of Paediatric, Tumbi Regional Referral Hospital, Kibaha - Pwani, Tanzania.

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Abstract

Sacrococcygeal teratoma (SCT) is the most common congenital tumour, with early prenatal diagnosis being crucial for optimal management. We report a case of a term male neonate in Pwani Region, Tanzania, born via Caesarean section after an ultrasound at 38 weeks of gestation revealed a large SCT. Despite referral to a regional hospital and later to a tertiary hospital, the infant died a few hours after birth due to uncontrollable haemorrhage from the highly vascular tumour before surgery could be performed. This case highlights the critical need for routine antenatal imaging, timely diagnosis, and improved access to neonatal surgical care in low-resource settings to prevent such fatal outcomes.

Keywords: Sacrococcygeal Teratoma; Antenatal Diagnosis; Haemorrhage; Caesarean Section

1. Introduction

Sacrococcygeal teratoma (SCT) is the most common congenital tumour, with an estimated incidence of 1 in 35,000 to 40,000 live births, more common in females [1]. SCTs arise from totipotent cells near the coccyx and can grow to large sizes in utero. They are classified by the Altman system into four types, with type I being entirely external [2]. The use of prenatal ultrasound, particularly with Doppler imaging, is critical in the detection and management planning for SCTs [3].

Large SCTs pose significant perinatal risks, including tumour rupture, haemorrhage, and high-output cardiac failure. Delivery in a facility with neonatal surgical capacity is crucial, and Caesarean section (C-section) is often recommended to reduce the risk of tumour trauma and bleeding during vaginal delivery [4,5].

We report a case of a term neonate born via C-section after late-term ultrasound detection of a massive SCT, who unfortunately died of uncontrollable haemorrhage before surgery could be performed. This case underscores the importance of early prenatal detection, timely delivery planning, and resource preparedness in managing large SCTs.

Sacrococcygeal Teratoma (SCT) is a rare congenital tumour arising from pluripotent germ cells in the sacrococcygeal region and is the most common neonatal tumour. Advances in antenatal ultrasonography have improved the prenatal detection of SCT, allowing for appropriate delivery planning and timely surgical intervention. However, in many low-resource settings, delayed diagnosis and limited access to specialised neonatal surgical services continue to contribute to significant morbidity and mortality.

Large SCTs are associated with serious complications, including tumour rupture, haemorrhage, high-output cardiac failure, and perinatal death. Early recognition and referral to well equipped centres are essential to improve outcomes. We present a fatal case of a large Altman type I sacrococcygeal teratoma diagnosed late in pregnancy in a neonate from Kibaha, Tanzania, highlighting the challenges of prenatal diagnosis, referral pathways, and surgical care in resource-limited settings.

*Corresponding author: Pius David Muzzazzi

2. Case

We report a case of a male neonate with a large sacrococcygeal teratoma (SCT) who was referred to Tumbi Regional Referral Hospital in Kibaha, Tanzania, from a nearby Health Centre on the first day of life.

The mother was a 21-year-old primigravida who had not attended antenatal care regularly during her pregnancy. No obstetric ultrasound was performed until 38 weeks of gestation, when a routine scan revealed a large sacrococcygeal mass. In response to this late diagnosis, a decision was made to deliver the baby by caesarean section at term to reduce the risk of tumour rupture or obstructed labour. The neonate was delivered with a birth weight of 3.1 kg. The APGAR scores were 4 and 5 at 1st and 5th minute respectively, and the baby required immediate resuscitation with bag-mask ventilation and supplemental oxygen.

Upon arrival at Tumbi Regional Referral Hospital, the baby was lethargic and showed signs of mild respiratory distress. Vital signs included a heart rate of 172 beats per minute, respiratory rate of 68 breaths per minute, oxygen saturation of 90% on nasal prongs, and a temperature of 36.2°C. Physical examination revealed a large, lobulated mass at the sacrococcygeal region, measuring approximately 10 × 9 cm. The mass was firm to cystic in consistency, with prominent superficial blood vessels, but no evidence of ulceration, and protruded from the sacral area (Figure 1). The abdomen was soft and non-distended, with no palpable mass. No abnormalities were observed in the limbs or spine.

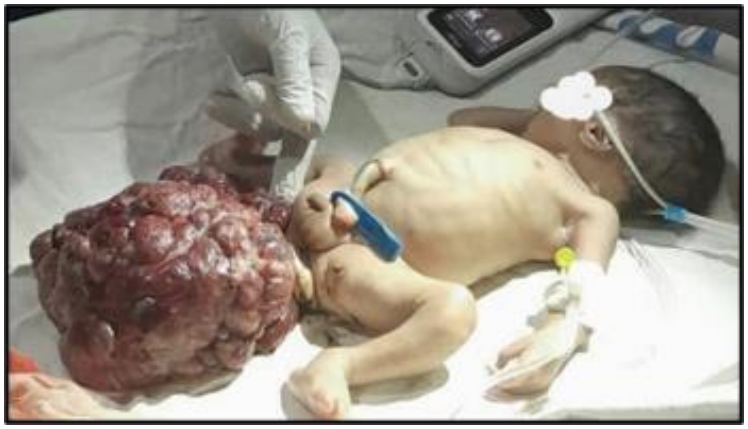

Figure 1 Image showing a newborn with large sacrococcygeal teratoma

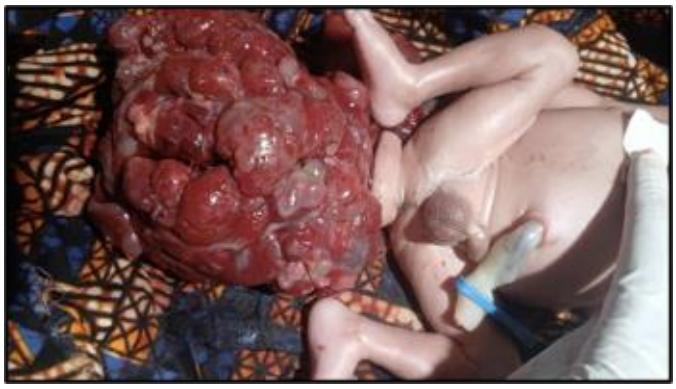

Figure 2 Closer view of a large, highly vascularised sacrococcygeal teratoma

A postnatal abdomino-pelvic ultrasound demonstrated a large external mass with mixed solid and cystic components arising from the sacrococcygeal area. There was minimal intrapelvic extension. No hydronephrosis, ascites, or other abdominal anomalies were detected. These findings were consistent with an Altman type I sacrococcygeal teratoma. The baby was then referred to a tertiary hospital for further management by paediatric surgeons and additional investigations, including magnetic resonance imaging, echocardiography, and serum tumour markers (AFP, β-HCG). These additional investigations could not be conducted due to the baby's unstable clinical condition.

While preparations were underway for surgical excision, the baby developed sudden and profuse bleeding from the tumour during routine handling for intravenous access and dressing. The bleeding was attributed to the highly vascular nature of the mass. Emergency measures were initiated, including intravenous fluid boluses, blood transfusion, pressure dressing over the tumour, oxygen supplementation, and thermal support. Despite these interventions, the haemorrhage was uncontrollable, and the baby's condition worsened, and he died a few hours after arrival.

3. Discussion

This case illustrates the serious complications that can occur with large, vascular sacrococcygeal teratomas, especially when diagnosed late in pregnancy. In this scenario, the antenatal detection of the SCT at 38 weeks prompted a caesarean section to reduce the risks of tumour rupture or dystocia, which was an appropriate decision based on existing clinical guidelines [5]. However, the delay in diagnosis limited the opportunity for referral to a facility equipped for neonatal surgery.

SCTs larger than 5 cm, particularly those with high vascular flow, are associated with complications such as high-output cardiac failure, hydrops fetalis, and tumour haemorrhage [3,6]. When identified earlier in gestation, foetal monitoring and delivery planning can be optimised. In some settings, ex-utero intrapartum treatment (EXIT) or foetal intervention may even be considered [4].

The standard treatment for SCT is early surgical resection with coccygectomy to prevent recurrence and ensure complete removal of the tumour [7]. In this case, however, the tumour's vascular nature and the absence of immediate surgical capacity led to fatal haemorrhage before surgery could be performed. The lack of access to neonatal intensive care units and round-the-clock paediatric surgical services remains a major barrier in low-resource settings such as rural Tanzania.

4. Conclusion

This fatal case of Altman type I SCT highlights the importance of early and routine antenatal ultrasound, ideally in the second trimester, for timely detection of congenital anomalies. Although late-term ultrasound enabled caesarean delivery to reduce birth trauma, the delay in diagnosis and lack of access to paediatric surgical and critical care services resulted in uncontrollable haemorrhage and neonatal death. Strengthening perinatal imaging services and establishing timely referral networks to surgical centres must be prioritised in resource-limited regions to improve outcomes for neonates with SCT.

Compliance with ethical standards

Acknowledgement

The authors sincerely acknowledge Tumbi Regional Referral Hospital for granting ethical approval and administrative permission to publish this case report. We are also grateful to the child's parents for providing consent to publish this case report for educational purposes. Furthermore, we acknowledge the valuable contributions of Dr. Erica Mrema, Dr. Hamis Sembe, and Dr. Janeth Cassian and all Paediatric Registrars who contributed to the preparation of this manuscript.

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of ethical approval

Ethical approval for publication of this case report was obtained from the relevant institutional authorities at Tumbi Regional Referral Hospital. Written informed consent was obtained from the patient's parents, and all procedures were conducted in accordance with hospital management protocols. Confidentiality and anonymity of the patient were strictly maintained throughout the preparation and publication of this report.

Statement of informed consent

Written informed consent was obtained from the parents, confidentiality was guaranteed, and administrative permission to publish this case report was granted by Tumbi Referral Regional Hospital as per hospital management protocols.

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