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Sacrococcgygeal Teratoma- A Rare Case Report and Review of Literature

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Authors' contributions

This work was carried out in collaboration between all authors. Authors CA and SJ admitted the patient, performed the caesarean section, wrote the protocol and wrote the first draft of the manuscript. Author PM managed the patient post operatively. Author CA managed the literature searches. All authors read and approved the final manuscript.

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Case Report

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ABSTRACT

Sacrococcygeal teratoma is a rare mass arising from the coccyx bone, which contain embryonic germ cell layers. Its mostly a benign tumour. Prenatal diagnosis of sacrococcygeal teratoma done by ultrasound imaging. Delivery should be planned in a institute where good neonatal care facilities are available. Early diagnosis and early excision of the tumour has good prognosis.

Keywords: Sacrococcygeal teratoma; excision.

1. INTRODUCTION

Sacrococcygeal teratoma is derived from the primitive streak [1,2]. 75% of tumours are benign, where as 12% are malignant. Babies less than 5 months generally has a benign lesion, older the age malignancy chances is more [3]. Girls are commonly affected than boys [4]. Etiology of the tumour is unknown. SCT should be differentiated from currarino triad, which is an autosomal dominant mutation- MNX1 gene protein. It consists of a presacral mass, anorectal malformation and sacral dysgenesis.

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SCT can cause mortality and morbidity in both mother and fetus which is preventable [5]. Prenatal diagnosis by ultrasound, regular and frequent follow up for monitoring fetal and maternal well being [6]. Prenatal MRI can be preformed to assess the size and extent of tumour, which is useful in management. Severity of the disease depends on the size of tumour, as size increases blood flow to the tumour increase leads to cardiac failure to the fetus. Early diagnosis and early excision of the tumour prevent morbidity and mortality of the fetus [7,8].

2. CASE PRESENTATION

26 yrs Gravida3 Para1 Live1 Abortion1 with 37 weeks gestation, came with c/o draining per vaginum Booked and immunized at our hospital. Her anomaly scan at 21 wks shows complex cystic mass 50*36 mm with solid components and calcification seen arising from the sacral region- Sacrococcygeal teratoma type I. Parents were counselled regarding fetal outcome and complication. Parents opted for continuation of pregnancy. There by regular follow up and ultrasound was taken at regular interval as the type of tumor can change over time. She was taken up for an Emergency LSCS Indication: Draining Per vaginum, Sacrococcygeal teratoma. Delivered an alive, Term, Boy baby, B.W. 3.07 Kg cried immediately after birth, had good power in all 4 limb. L/E: mass over Sacrococcygeal region of size 15*17.5*9 cm with dilated vein seen on the mass. Anal opening was present and baby passes stools. Baby was shifted to NICU for observation. All investigations were done for baby all were within normal limits (Hb 15 gm%, serum creatinine 0.72 mg/dl, BUN 12.5 mg/dl, bilirubin 1.05 mg/dl, SGOT 28 IU/dl, SGPT 30 IU/dl. Beta HCG: 3.90 mIu/ml, AFP : >520 ng/ml, USG abdomen was normal study and no bowel or bladder involvement.

MRI: Sacrococcygeal teratoma type II with large external component 11.7*6.4*12.3 cm and a small intrapelvic presacral component 2.7*2.1 cm.

Planned for excision of teratoma with coccygectomy. Specimen sent for HPE - reported as Benign cystic teratoma. Post operative period was uneventful, baby moving all 4 limbs, no wound discharge and anal sphincter tone maintained. Baby is on regular follow up. Alpha feto protein level has decreased. Growth and weight gain is appropriate to the age. surgical wound site is healthy.

3. DISCUSSION

Sacrococcygeal teratoma are of many types depending up on the extent of the tumour outside and inside the body [6].

- Altman type I – Tumour lies entirely outside, sometimes attached to the body only by a narrow stalk.
- Altman type II – Tumour lies mostly outside.
- Altman type III - Tumour lies mostly inside.
- Altman type IV- Tumour lies entirely inside, this is also known as presacral teratoma or retrorectal teratoma.

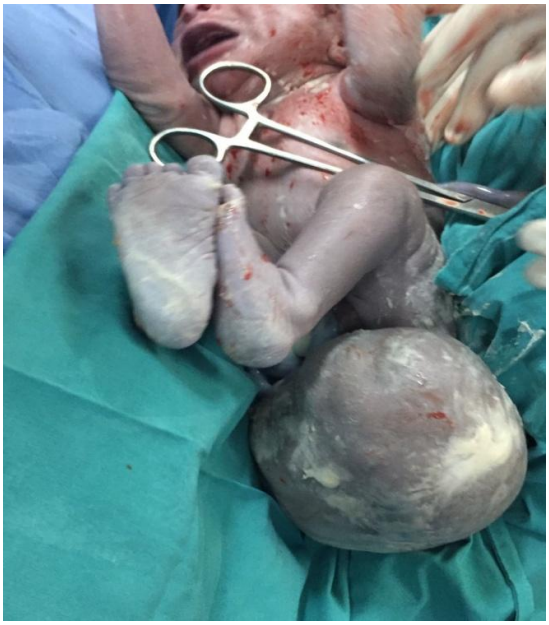

Fig. 1. Image of the baby immediately after a caesarean section from lateral aspect with Sacrococcygeal teratoma 15*17.5*9 cm

The Altman type is significant for the management of labour and delivery. If tumour size is more than 10 cm have to plan for an elective cesarean section [9], as the tumour contains cystic and solid components can get rupture during normal delivery leads to poor outcome .The type of tumour can change over time so serial ultrasound is required .Generally it is diagnosed at second trimester when there is over distension of uterus. Antenatally close monitoring is needed in such patient, as fetal distress can occur, it is because the tumour grows and the blood flow towards the tumour also increases which leads to cardiac failure

inturn cause ascites, pleural effusion, pericardial effusion and skin edema in the fetus these are the features of hydrops [3]. Extreme fetal hydrops will cause preeclampsia, proteinuria, pulmonary edema in the mother which is called as maternal mirror syndrome [10].

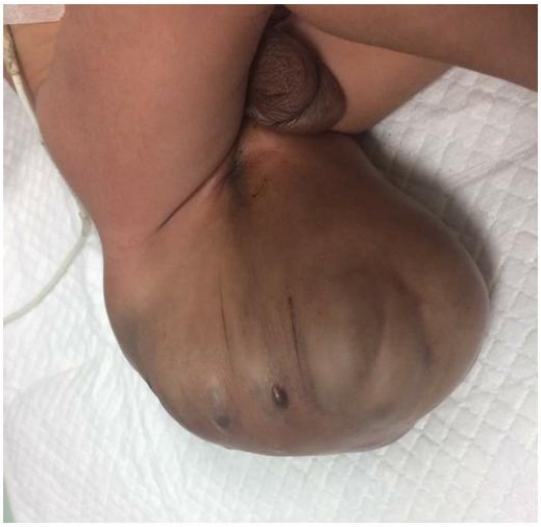

Fig. 2. Close image of Sacrococcygeal teratoma with dilated veins

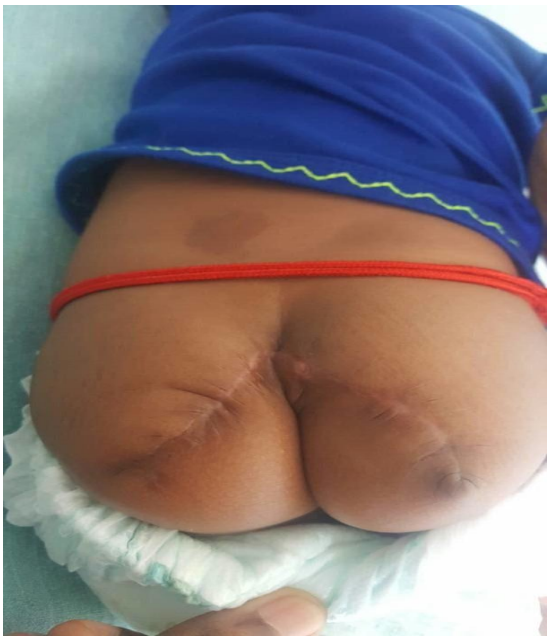

Fig. 3. Image showing post operative scar

Prenatally Sacrococcygeal teratoma can be diagnosed by ultrasound and MRI, It guides as to plan for the mode of delivery [11]. Cesarean section is the better mode of delivery. Delivery is conducted were NICU facilities are available and have to plan for early excision of the teratoma along with the coccyx done [12]. Histopathology of sacrococcgeal teratoma is generally benign which is of about 60-70% [13,3]. Alpha feto protein is estimated preoperatively for the follow up and recurrence of the tumour. Removal of the coccyx will prevent recurrence [14]. Good postoperative care and monitoring is needed for a excellent outcome.

4. CONCLUSION

- Sacrococcygeal teratoma can be diagnosed prenatally, have to plan for elective cesarean section were NICU facilities are available.
- Surgery for the baby should be done as early as possible to prevent complication like coagulopathy, necrosis by compression, infections or intra tumoural hemorrhage.
- Excision of teratoma along with coccygectomy is the treatment of choice and also prevent recurrence of disease.

CONSENT

All authors declare that written information consent was obtained from the mother for publication of this paper and accompanying images.

ETHICAL APPROVAL

All authors hereby declare that "Principles of laboratory animal care" (NIH publication No. 85-23, revised 1985) were followed, as well as specific national laws where applicable. All experiments have been examined and approved by the appropriate ethics committee.

All authors hereby declare that all experiments have been examined and approved by the appropriate ethics committee and have therefore been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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