Original Research Paper

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PRENATAL ULTRASOUND AND MAGNETIC RESONANCE IMAGING FEATURES OF SACROCOCCYGEAL TERATOMA (SCT)

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ABSTRACT Sacrococcygeal teratomas (SCT) are the most common solid tumour in newborns. We report a case in which a SCT was identified and characterized on prenatal ultrasound and magnetic resonance imaging. Prenatal assessment of the SCT is necessary for counselling of the parents and for planning of surgery.

KEYWORDS : Sacrococcygeal teratomas (SCT) .

INTRODUCTION

Sacrococcygeal teratomas (SCT) has a reported incidence of 1 in 35,000–40,000 infants [1,2] and a 3:1 female to male ratio[3] . Perinatal mortality rates are higher because of high cardiac output failure , dystocia , preterm delivery and tumour rupture. Antenatal sonography has major role in the detection of SCT , however many factors (e.g. size of the mass , pelvic bone shadowing) may result in incomplete evaluation . Such limitations can be overcome by magnetic resonance imaging (MRI).

CASE REPORT

I report a case of 26 years old female at period of gestation 19 weeks 1 day. On ultrasound (USG) average gestational age was 21 weeks 1 day and effective fetal weight was 401 grams. On USG there was a cystic mass arising from the sacrococcygeal region **(Figure 1a & 1b).** For further evaluation of this patient, MRI was done . On MRI there was a cystic mass arising from the sacrococcygeal region of the fetus **(Figure 2a & 2b).** Diagnosis of SCT was made on MRI.

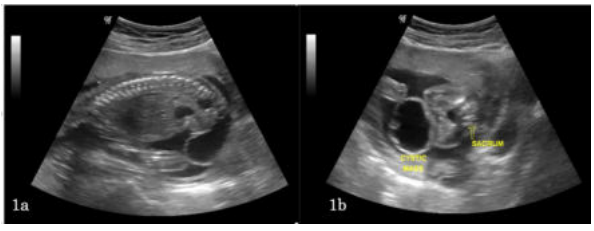

Figure 1a & 1b : USG images of fetus showing a cystic mass arising from the sacrococcygeal region. No internal septation or soft tissue seen within this mass.

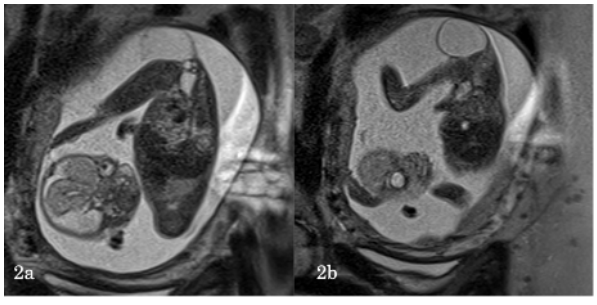

Figure 2a & 2b: MRI sagittal T2 weighted images showing a T2 hyperintense cystic mass with a large extrapelvic component and a small intrapelvic component .

DISCUSSION

SCT consist of variable tissues from all three germ cell layers. Therefore, imaging findings are heterogeneous and may show a combination of both cystic and solid components. The major complication is malignant degeneration. Signs suggestive of malignancy are predominantly solid nature of mass , presence of hemorrhage and /or necrosis within the mass and sacral bony destruction, invasion of surrounding structures or metastatic disease , however accurate diagnosis is made on histopathology.

Morphologically SCT have been classified into four groups by **American academy of paediatrics surgery section survey**:

Type I - Primarily external in location.

Type II - Equal amounts of internal and external components with a dumbbell shape.

Type III - Small external component and is mainly located within the abdomen and pelvis.

Type IV - Entirely internal without a visible external component.

Most tumors are type I in which surgical management is possible with cure rates upto 95% [4]. Neo-adjuvant cisplatinum-based chemotherapy is given in tumors with significant surrounding extension and/or metastases . Surgery remains the mainstay of treatment, however recurrent malignant sacrococcygeal teratomas is major challenge in the treatment. Preoperative platinum based chemotherapy have conferred some success.

CONCLUSION

SCT can be detected in antenatal USG , the purpose of this study was to detect the important features of the SCT on combined USG and MRI to make the accurate diagnosis. Also MRI can further provide additional and clinically important information.

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