

Sacrococcygeal Teratoma in an Adolescent: A Rare Case Report

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Abstract

Sacrococcygeal teratoma (SCT) is a common congenital neoplasm, common in infants, but rare in adults. It is arise from Hensen node and located at sacrococcygeal area. Tumor contain derivatives of more than three embryonic germ cell layers e.g. Ectoderm, mesoderm and endoderm. These are usually arise as mass in sacrococcygeal region. Here we report a case of huge sacrococcygeal mass in a 14-year-old-male child which is very rare which was excised completely via perineal approach without operative or post-operative morbidity. Histopathology was in favor of SCT. Prognosis depends on complete excision of the tumor. Hence, have reported the case with clinical manifestations, imaging aspects along with histological findings of this case.

Keywords: Cysticercosis, Taenia solium, Tiniasis

INTRODUCTION

Sacrococcygeal teratoma (SCT) is derived from embryonic germ cell layers. It is one of the commonest tumors in infants.¹ It is rare in adults, however, most being located in the intrapelvic spaces,² and 1-12% were reported to undergo malignant transformation.³ Radiological imaging is helpful in diagnosis and extent of this disease with surrounding structures. A mature SCT is potentially curable by complete surgical resection.²

CASE REPORT

A 14-year-old male child was admitted to our department with a large swelling in the sacrococcygeal region since birth. On local examination, mass was present over sacrococcygeal region. It was painless and slowly growing in nature. Dimension was of 12 cm × 16 cm. The mass was irregular in shape and size. Overlying skin was free. No other significant finding detected. Per abdomen mass was not palpable. Per rectal examination revealed, the mass was palpable posterior to the rectum. Total leucocyte count

and differential leucocyte count was in normal limit. Renal function test, liver function test and tumor markers (alpha fetoprotein and beta human chorionic gonadotropin [HCG]) were within normal range [Figures 1 and 2].

Ultrasonography revealed a large mass of mixed echogenicity with calcification and cystic lesion seen in the sacrococcygeal region with a small pre sacral component with pushing bladder anterior and coccyx posterior. Horse shoe shaped kidney was also present. Finding was suggestive of Type 1 SCT.

Contrast-enhanced computed tomography (CT) scan of pelvis suggestive of a large heterogeneously enhancing mixed density soft tissue lesion of size approximately 124 mm × 161 mm × 174 mm seen at sacrococcygeal region with both extra and intra pelvic component. Fat planes not spared, compressing over adjacent abdominal viscera. Showing multiple cystic area, fat density, calcify foci suggestive of SCT with horse shoe shaped kidney.

The patient operated under general anesthesia through perineal approach. The teratoma was removed completely.

Macroscopic feature revealed that the cyst was filled with a thick fluid which was white in color, pus and tissues of different germ layers e.g. hair was present. Coccyx also removed with mass [Figure 3].

Perineal incision closed in layers keeping drain in situ. Post-operative period was uneventful. The patient discharged 12 post-operative days and advised for regular monthly follow-up. Histopathology report was in favor of SCT.

DISCUSSION

SCT is the most common neoplasm in newborn with an incidence of 1/40,000 live birth. SCT varies considerably in size and is composed of 2 or 3 germ cell layers and multiple tissue type. SCT is more common in females with a male, female ratio of 1:3-4.⁴ SCT is a neoplasm arising in the sacrococcygeal region and contain tissue derived from more than one primitive germ cell layers, its cause remain unknown.⁵ Some believe that it is originated from multi potential cells in Hansen's node, which migrate caudally to coccyx. It is one of the commonest fetal neoplasm, but it is rare in adult.⁶ Most adult SCT is intrapelvic, whereas most are external in infants. In infant malignant transformation is much higher.

SCT has a malignant potential which is parallels the age of the patient at presentation. Complete resection of the tumor soon after birth provides an excellent prognosis. The incidence of malignancy at the neonatal period is approximately 10% against almost 100% at the age of 3 years. About 67% of SCT are diagnosed by the age of 1 year. Females are 4 times more likely to be affected than male. In childhood they normally occur as extragonadal mass, located along the midline. About 40-50% occurs in the sacrococcygeal region. Early detection and management are important. These tumors may be present with varying symptoms like bowel and bladder incontinence, backache, weakness of limb or fistula of the urogenital or gastrointestinal tract. Other congenital anomalies like defect in the cloacal and hind gut are associated in 10-24% of cases.⁷

50% SCT exhibit calcification and ossification which is seen in CT scan, so CT scan is more sensitive modality of investigation. Magnetic resonance imaging is superior for evaluating the anatomical relationship to adjacent organs. Biochemical markers including alpha-feto-protein, carcinoembryonic antigen and HCG⁸ are helpful in malignant SCT while not in benign. Also be used to detect recurrence after surgery.

In the case of late presentation, it is due to lack of awareness and lack of proper diagnostic facilities. Surgical excision is



Figure 1: Pre-operative posterior view of Sacrococcygeal mass



Figure 2: Pre-operative lateral view of Sacrococcygeal mass



Figure 3: Specimen

the treatment of choice. Mostly excised by posterior para sacrococcygeal approach and which extends in the pelvic cavity are by the combined abdominoperineal approach. In a patient with teratoma coccyx often contain nests of

totipotent cells and therefore it should be removed *en bloc* with the tumor. Excision of the tumor without coccyx results in recurrence in over 30% of cases.⁶ For mature and immature teratoma the prognosis is good after surgical excision alone but malignant teratoma have a tendency to recur and metastasis so teratoma should be removed meticulously if not than regular follow-up required detecting early recurrence. Recurrence after resection varies from 2% to 35%. This may result from incomplete surgical excision, with the presence of microscopic residues, non-resection of entire coccyx and/or tumor spillage. Complete excision including the coccyx and sparing the sacral nerves leads to low recurrence. The recurrence is high in the first 3 years after surgery and therefore needs regular follow-up.⁹ Those tumors with malignant changes need further chemotherapy. Usually platinum based chemotherapy used as neoadjuvant or adjuvant.

CONCLUSION

A prenatal diagnosis of SCT is essential to avoid early mortality. Early diagnosis, early complete enbloc resection of the tumor along with the coccyx and the avoidance of intraoperative spillage of the tumor are prognostic factor. Delayed presentation and the presence of malignant

changes continued to be poor prognostic factors. Close follow-up of these patients is necessary to deal with the postoperative sequelae of surgery.

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