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CYSTIC SACROCOCCYGEAL TERATOMA PRESENTING AS ACUTE INTESTINAL OBSTRUCTION IN A MALE CHILD

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ABSTRACT

Sacrococcygeal teratoma is a pediatric tumour which commonly presents in the neonatal period. Depending upon the degree of the differentiation they are of mature and immature types. Mature teratomas are mostly benign and contain fluid, fat, calcification, hair or bone whereas immature teratomas consist of predominant solid component with immature tissue. Immature teratomas have higher association with malignancy. Older the age at presentation more is the risk of malignant change. Therefore, early suspicion and diagnosis helps in the early surgical intervention. MR imaging plays important role in the diagnosis and depiction of anatomical relationship of the tumour with surrounding structures. I report a case of a male child who presented with the acute intestinal obstruction secondary to the mass effect caused by a large cystic pelvic mass which on further investigations found to be a cystic sacrococcygeal teratoma. The aim to report this case is to sensitize the clinicians & the radiologists about the clinical features at the presentation and the imaging features of cystic sacrococcygeal teratoma.

KEYWORDS

sacrococcygeal, teratoma, immature, calcification, fat.

INTRODUCTION

Sacrococcygeal germ cell tumours arise secondary to disorganization of some of the totipotent primitive neural cells during embryogenesis. Depending on the degree of differentiation, various benign and malignant germ cell tumours may occur. The sacrococcygeal teratoma is the most common type of these presacral germ cell tumours in children and the most common solid tumour in neonates (1–3). The benign form of sacrococcygeal teratoma is prevalent in approximately one in 35,000 – 40,000 births; 60% show benign nature (1–3). The sacrococcygeal region is the most common site (60%) of origin for non– central nervous system teratomas, followed by the ovaries and testicles (30%), the mediastinum (5%), and the retroperitoneum (4%) (4). Most sacrococcygeal teratomas manifest as presacral or pelvic masses and the symptoms at presentation depend upon the mass effect on the surrounding structures.

Case Report

3 years old male child presented to the Department of Pediatrics at a tertiary care hospital with abdominal pain associated with difficulty in micturition for past 7 days. The patient had history of non passage of stool and flatus for the past 5 days. On examination there was abdominal distension. Based on the clinical findings possibility of acute intestinal obstruction was kept and imaging was requested. The routine hematologic investigations were within normal limits.

Imaging features

Abdominal x ray taken in supine position revealed multiple small and large bowel loops distended with the air (Fig. 1). On sonography also the findings of dilated small as well as large bowel loops were seen. The CECT abdomen was done to look for the cause of obstruction which revealed a peripherally enhancing cystic mass in the presacral space of size ~ 12x7cm with eccentric calcified spec and non visualised 2nd segment of the coccyx with multiple enlarged lymph nodes (Fig.2a and b). Based on the findings of CECT the possibility of cystic sacrococcygeal teratoma was kept. For better characterization MRI pelvis was done that also revealed the cystic mass in the presacral space with anteriorly displaced and compressed rectum and urinary bladder and surrounding mass effect (Fig.3). The surgery was performed which showed a large cystic mass with straw coloured fluid. The specimen was sent for histopatholgy that confirmed the mature cystic sacrococcygeal teratoma.

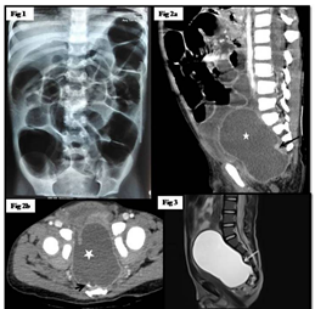

Fig. 1 shows the x-ray abdomen image in supine position which reveals multiple dilated small and large bowel loops. The CECT sagittal (Fig 2a) and axial (fig 2b) sections which show the peripherally enhancing cystic mass(star) in the presacral space with eccentric enhancing soft tissue component (black arrow) and a small calcified spec (arrowhead) with mass effect. T2WI sagittal section (fig 3) is showing the cystic mass with eccentric soft tissue component (white arrow).

DISCUSSION

The sacrococcygeal teratoma commonly involves the pediatric age group. Mostly sacrococcygeal teratomas are seen as pelvic masses, however may also extend into the abdomen. The tumours are classified, according to Altman Classification of the Surgical Section of the American Academy of Pediatrics, into four types: type I, predominantly external masses with a small presacral component; type II, external masses with a significant intrapelvic component; type III, external masses with a pelvic and abdominal component; and type IV, internal masses with an intrapelvic and abdominal location (5). Approximately 50%– 70% of sacrococcygeal teratomas manifest within the neonatal period, and 80% are diagnosed before the age of 6 months. Less than 10% are diagnosed after the age of 2 years. The older age at the time of presentation is associated with increased prevalence of malignancy (6); therefore, early diagnosis and treatment are important (5,7,8). The imaging characteristics of these tumours depend on their contents and maturity. Benign teratoma contain only mature tissues i.e, fat, calcification,hair and a small amount of soft tissue. The presence of a large amount of immature tissue in a teratoma is suggestive of malignant potential and the possibility of local recurrence (7). Benign teratomas are predominantly cystic with fluid attenuation on CT scan; and may also have component of bone, fat, and calcification. Cystic areas typically have the appearance of fluid on T1-weighted and T2- weighted MR images whereas fatty tissue demonstrate high signal intensity on T1-weighted images, while calcification and bone are depicted as areas of signal void. Malignant teratomas are predominantly solid and hemorrhage and necrosis are common. MR imaging helps in better characterisation of the tumour and anatomical delineation which helps in surgical planning to prevent the reccurence. Early diagnosis of the tumour helps in early surgical intervention.

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