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GASTRIC TERATOMA IN AN INFANT: A RARE CASE REPORT

Surgery

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ABSTRACT

Gastric teratomas are extremely rare neoplasms and almost exclusively benign. They occur predominantly in males and generally present as a palpable abdominal mass with or without features of gastric outlet obstruction. Herein we report a rare case of gastric teratoma in a 8 month old male child, diagnosed by USG and CT Scan and managed in the form of surgical excision and showed no recurrence on follow up.

KEYWORDS

Gastric Teratoma, Abdominal mass, gastric outlet Obstruction

INTRODUCTION

Teratoma is defined as germ cell tumor composed of tissues derived from ectoderm, endoderm, and mesoderm and has been described in various locations. Gastric teratomas are rare neoplasms and account for<1% of all teratomas. Only about 112 cases of Gastric Teratomas are recorded till 2012, of which <15 cases of immature variant have been described.[1]. The first case was reported by Eusterman and Sentry in 1922 in a 31-year-old male. [2]. A majority of the gastric teratomas occur in neonates or infants. The Baby generally presents with a palpable abdominal mass. They are classified into mature and immature teratomas based on the presence and degree of differentiation of neuroglial tissue. Mature gastric teratomas are benign and have a good prognosis after complete surgical excision.[1]

CASE REPORT

An 8 months old male child presented to us with complaint of progressively increasing abdominal distension since birth. There were no other generalised or systemic complaints. The child was born through a full term vaginal delivery and cried immediately after birth. Child was on breast feed and there was no history of exposure to any drugs or radiation to the mother in the ante-natal period. Physical examination of abdomen revealed a firm, irregular mass, predominantly in the left upper quadrant of abdomen. Hematological and other biochemical investigations were within normal limits. Serum alfa fetoprotein (AFP) and Beta human chorionic gonadotrophin (HCG)were within the normal range. Ultrasonography revealed a solid-cystic mass with mixed echogenicity in left upper abdomen and enhanced abdominal CT scan showed large well defined solid-cystic mass lesion predominantly occupying left side of abdomen with multiple internal large calcifications and macroscopic fat with no obvious local invasion [fig. 1].

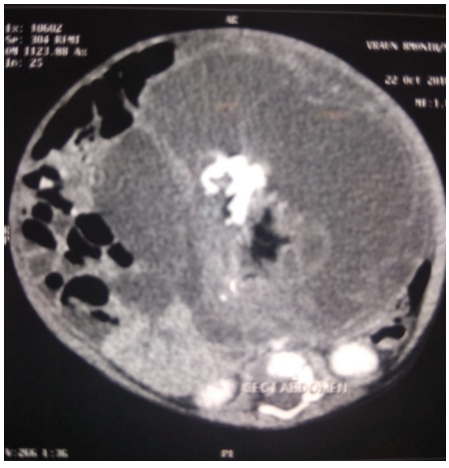

Fig.1. CECT image of abdomen showing large solid cystic mass with large internal calcifications and fat

intra-tumoral calcification and mixed cystic and solid components of the mass. Exploratory laparotomy was done which revealed a large solid-cystic mass (11 x14x16cm) arising from the greater curvature of the stomach [fig .2]. The mass was lying outside the stomach without any extension into the lumen of the stomach. The mass was excised en-block and the defect was repaired. The postoperative period was uneventful. The histopathological examination revealed mature cystic teratoma.

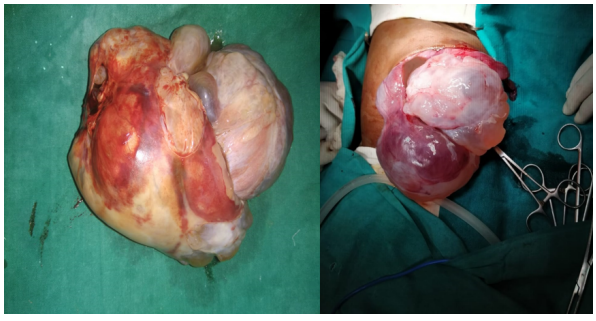

Fig.2. Gross image of the mass resected during laparotomy.

DISCUSSION

Teratoma is the most frequent tumor among germ cell neoplasms in children. [1-4] Teratomas are neoplasms containing bizarre, highly organized tissues derived from all three germ layers. Their exact cause is not known. In infancy and childhood the commonest site of teratoma are sacrococcygeal region (60-65%), gonadal (10-20%), mediastinal (5-10%), presacral (5%) and rarely intracranial, retroperitoneal and cervical.[3]. There is a striking male predominance of gastric teratoma with only seven cases (7%) occurring in females [4]. Almost all reported gastric teratomas have been benign with no malignant elements in any tumor of any size, or even among those found in adults. The exception is one case involving malignant transformation, reported by Matsukama et al. (5).

In most of the cases, the chief complaints are abdominal distention and lump but sometimes respiratory difficulty can be caused by upward displacement of the diaphragm by the tumor. Some infants can present with vomiting, hematemesis or melaena because of ulceration of overlying mucosa in cases of endogastric component [6]. Majority of gastric teratoma are exogastric representing approximately 60% of the cases while endo-gastric growths are present in about 30% of the cases. Mixed exogastric and endogastric growths are rare [6]. In our case the mass was exogastric without any endogastric component attached to greater curvature.

Preoperative evaluation usually requires a CECT abdomen and tumor markers apart from routine USG. In most cases, tumor markers are elevated, and they can be used as a prognostic marker in the follow-up. Radiologic evaluation can differentiate between gastric teratoma and other more common abdominal masses of childhood. USG and CT can demonstrate not only a heterogeneous mass containing varying

amounts of cystic and solid components, but also fat and calcification. The latter suggest a diagnosis of gastric teratoma. In our case there was evidence of fat components, calcification and the mixed cystic and solid component of the mass, suggestive of Teratoma. Differential diagnosis should include other pediatric abdominal masses, namely neuroblastoma, Wilms tumor, pancreatic cyst, hepatoblastoma, rhabdomyosarcoma, liposarcoma, and retroperitoneal teratoma (7).

Teratomas are subdivided into mature or immature subtypes depending on constituent element. Grade 0 is mature and regarded as benign, Grade 1 is immature with <10% microscopic foci containing immature tissues, Grade 2 is immature with 10%–50% of immature tissue, and Grade 3 is immature with 50% of immature tissue. Grade 0, 1, and 2 pure teratomas have the potential to become malignant (Grade 3), and malignant pure teratomas have the potential to metastasize [1,8,9,10].

Complete surgical resection remains the cornerstone of treatment of gastric teratoma. Immature gastric teratoma has an excellent prognosis after a complete surgical resection. Adjuvant chemotherapy or radiotherapy is not recommended. Follow-up consists of regular observation and serum AFP measurement to monitor for recurrence or malignant transformation. In case with rising AFP level after surgical resection of gastric teratoma, chemotherapy is recommended.

Therefore, it is noteworthy to keep gastric teratoma in mind when dealing with mass lesion in the stomach. Early diagnosis and prompt medical treatment with careful follow-up are essential.

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