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Giant Primary Retroperitoneal Teratoma: A Case Report

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Abstract
Teratomas are congenital tumors derived fromembryonic tissues that may contain derivatives of all three germ layers(ectoderm,mesoderm and endoderm).Primary retroperitoneal teratomas are rare entities.Here we report a case of 15 yrs old girl with huge abdominal lump extending from epigastrium to the pelvic cavity,covering almost all the abdominal quadrants with mild diffuse pain over whole abdomen. Radiolgical evaluation revealed a retroperitoneal mass displacing pancreas,left kidney and bowel loops,composed of calcifications and solid cystic components.Thetumour was resected through a midline laparotomy and the pathology report confirmed the diagnosis of a mature cystic teratoma with no evidence of malignancy or immature components.Thepost operative recovery was uneventful.

Keywords: *Teratoma ,Retroperitoneal , Primary,Case report*

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I. Introduction

Primary retroperitoneal teratomas often occur in infancy and childhood but are rare in adults.Teratomas are uncommon neoplasm that contain derivatives of all three germ layers(ectoderm,mesoderm and endoderm) and are typically located in gonadal region.Most common location of these tumour being ovaries and testes in adults and only 4% are located in retroperitoneal space(1).Only a few case reports have been reported in literature so far.

II. Case Report

A 15 year old female presented to SurgeryOPD ,AMCH,Dibrugarhwith painless abdominal swelling since childhood without fever or any bowel or urinary complaint.Onexamination,a large mass was palpable extending from epigastrium to the pelvic cavity.

On generalexamination,the patient was poorly nourished with blood pressure of 120/70mm of Hg,pulse rate of 68bpm and RR 21 breaths/min .On physical examination a large mass was palpable in both right and left flanks and in epigastrium with varying consistency.The margins of swelling couldnot be well appreciated.Her laboratory parameters were as follows:Hb 13.5 g/dL,WBC8500/mm^3,RBS 90 mg/dL,S.amylase 40 U/L,andS.creatinine 1.0 mg/dL.

Abdominal ultrasound demonstrated a huge retroperitoneal mass.CECT abdomen(Fig.1) revealed a(32×16×17)cm multiloculated,solid and cystic SOL with calcifications in retroperitoneum.

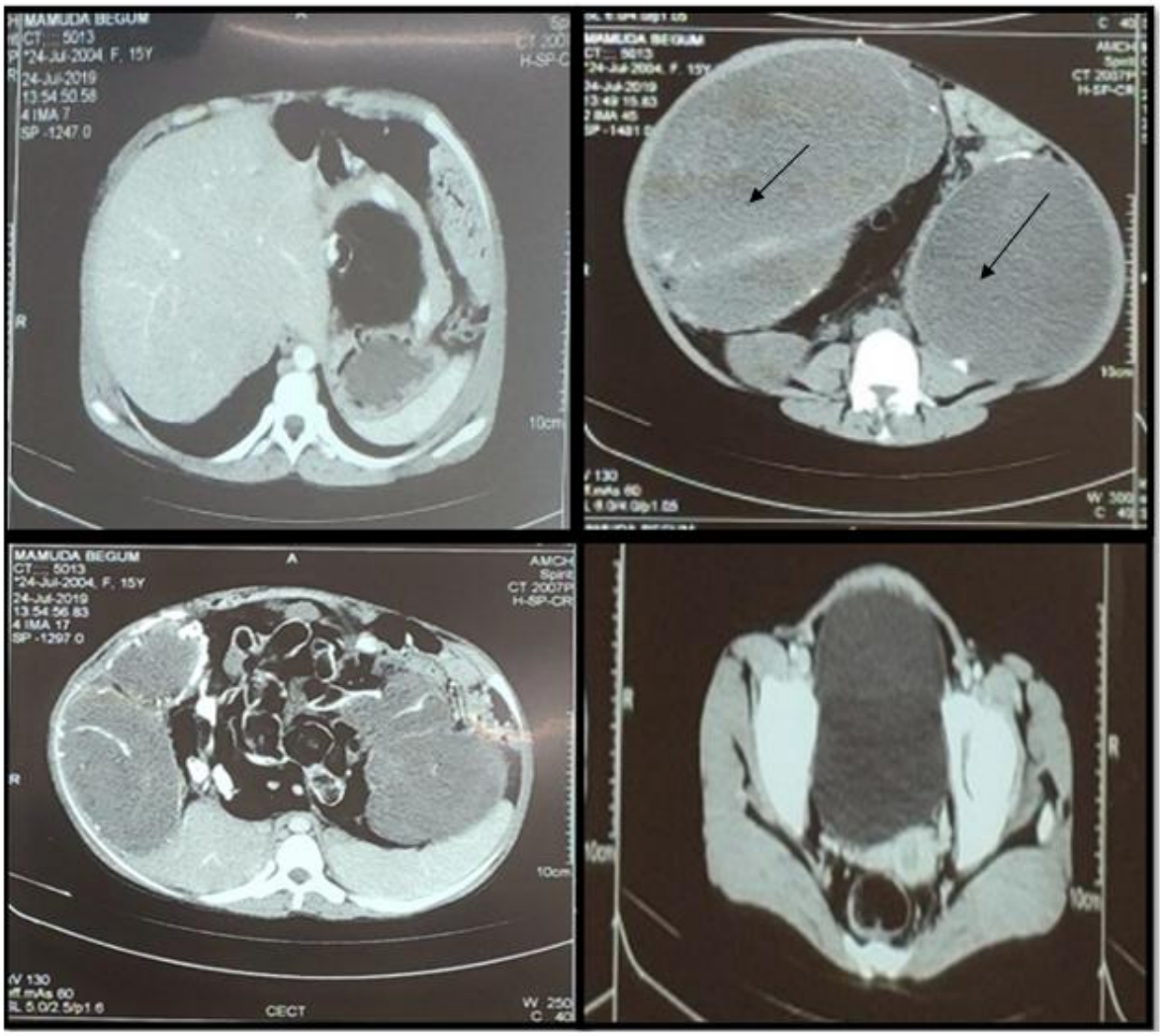


Fig.1CECT abdomen of the patient showing retroperitoneal teratoma

Patient underwent a midline exploratory laparotomy.Operative findings revealed a horseshoe shaped retroperitoneal mass in both flanks extending upto right and left iliac fossa crossing midline with isthmus of tumour lying behind hepatoduodenal ligament causing anterior displacement of pancreas with stretched duodenum and bowel loops.(fig.2)

After mobilization of the mass,left sided cystic components were evacuated and pushed towards the right side through the tunnel created by isthmus behind the hepatoduodenal ligament (Fig.3).The mass was completely excised ,hemostasis achieved and a chest tube drain was placed in hepatorenal pouch of Morrison.

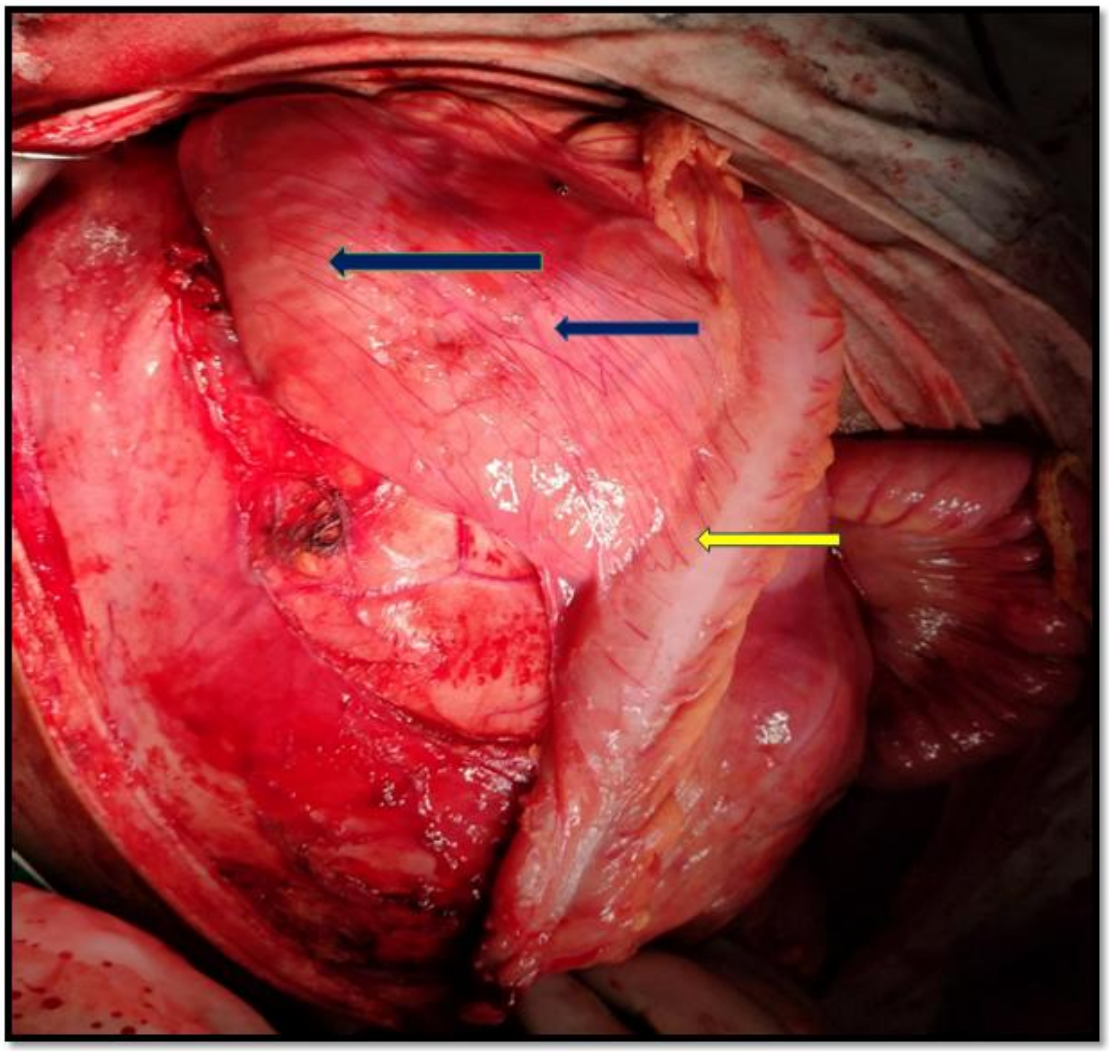
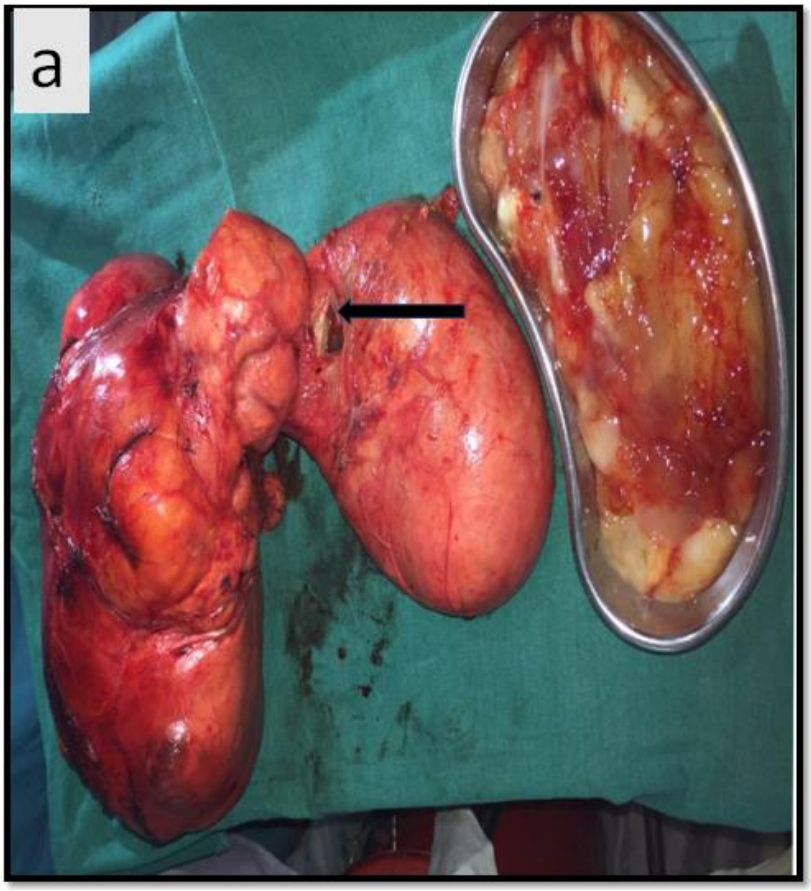


Fig.2 showing stretched and anteriorly pushed duodenum,pancreas(blue arrow)and colon(yellow arrow)by tumour

Macroscopically the tumour appeared to be an encapsulated solid cystic mass with bones,hair and sebaceous material weighing about 13kgs(Fig.3)
Histopathological evaluation confirmed the diagnosis of a benign primary mature teratoma (Fig.4)



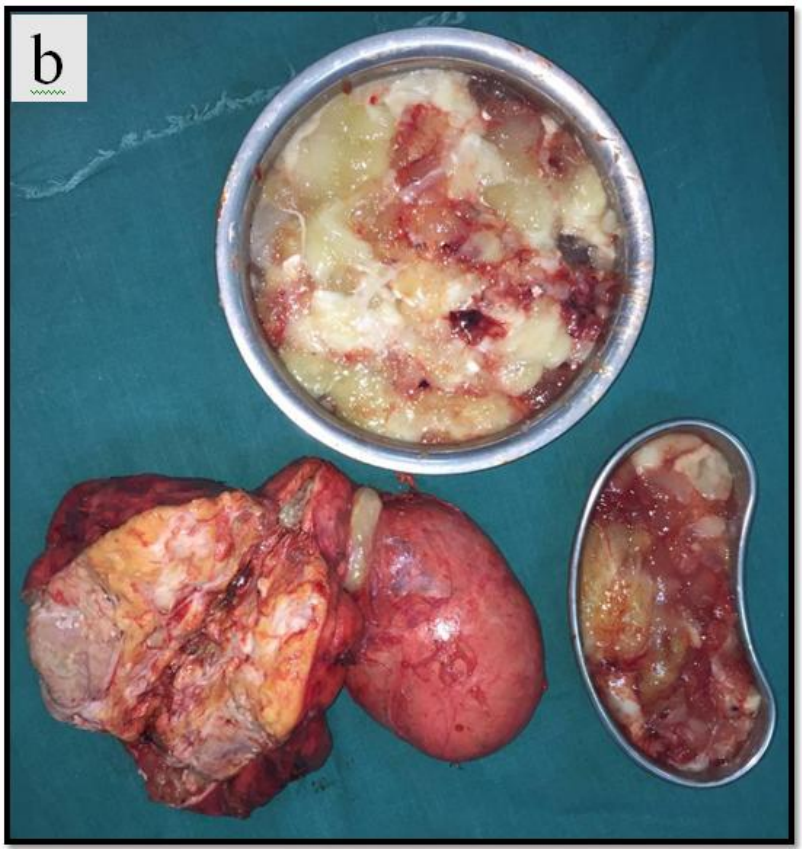


Fig.3(a)Excised specimen of retroperitoneal teratoma with ruptured capsule and sebaceous material(b)cut section

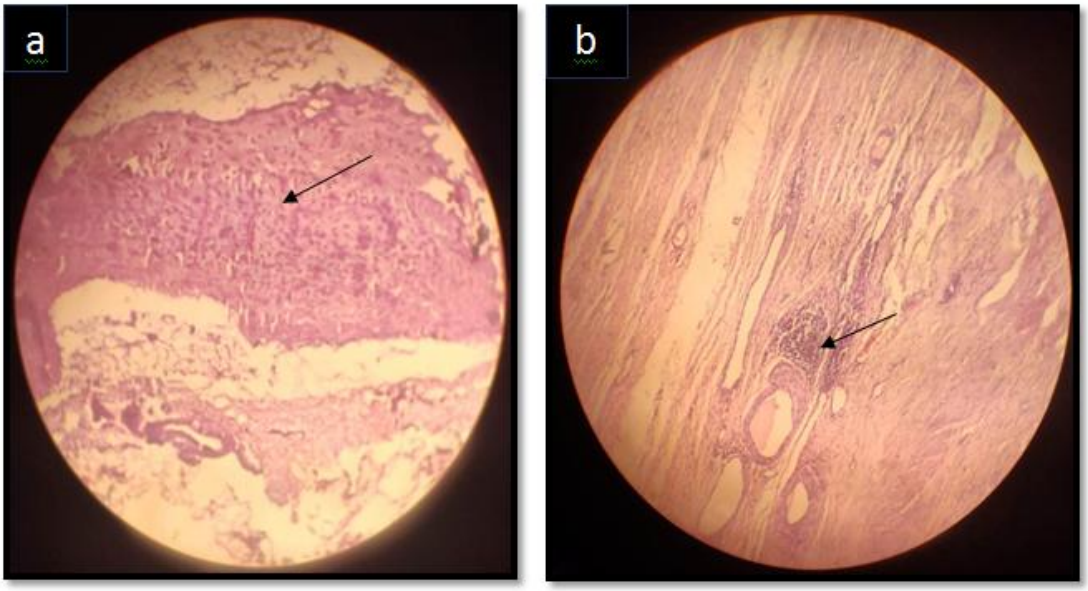


Fig.4 Histopathological slides showing (a)cartilaginous tissues (b)Mature neural tissues

Post operative course has been uneventful except mild fever and malaise .She got discharged on 18thpost operative day and is doing well on follow up.

III. Discussion

Overall,primary retroperitoneal teratoma constitute about 1-11% of all retroperitoneal tumours in children and 4% in adults(1).The incidence is bimodal with peak in first decade of life and rarely after 30 years of age(2).

Teratomas can macroscopically be divided into two categories:cystic and solid.Cystic teratomas are mostly benign,containing sebaceous materials and mature tissue types.On the other hand ,solid teratomas are often malignant and composed of immature embryonic tissues in addition to adipose,cartilaginous,fibrous and bony components.

The distribution of teratoma listed in order of decreasing frequency is :Sacrococcygeal region(in infants),Ovaries,testes,anteriormediastinum,retroperitonealspace,cranial cavity and neck.(3)

Retroperitoneal teratomas are usually asymptomatic except when compressive symptoms occur like back pain,genitourinary and gastrointestinal symptoms(abdominal distention,pain,nausea,vomiting) as well as lower extremity and genital oedema due to lymphatic obstruction.(4)

Differential diagnosis can be Ovarian tumour,renalcyst,adrenaltumours,retroperitoneal sarcoma(usually liposarcoma)and fibroma,hemangiomas and perirenal abscess.(5)

Radiolological investigations play an important role in clinching the diagnosis as well as planning for surgery.Abdominal ultrasonography can identify solid,cystic or complex components of the tumour.CT scan appears better at defining extent of tumour into surrounding organs and vessels.MRI is superior to both ultrasound and CT in predicting resectability and evaluating nature (benign or malignant),staging and recurrence.(5)(6)

Various serum rumor markers can be elevated in retroperitoneal teratomas such as AFP, CEA and CA-19-9 . These markers can be used for monitoring successful treatment or relapse of the tumor in the patients.(7)

Surgical excision of benign (mature) teratoma is required for a definitive diagnosisby histopathological examinationand remains mainstay of treatment.It is largely resistant to radio-and chemotherapy.(1)Prognosis is excellent after complete surgical excision with overall five-year survival rate of nearly 100%.(8)

IV. Conclusion

Primary retroperitoneal teratoma is a rare tumour mostly present as abdominal lump.Distintive features on different imaging studies helps in making diagnosis preoperatively.Malignancy is very uncommon in retroperitoneal teratomas.The prognosis is excellent for benign retroperitoneal teratomas if complete resection can be accomplished.

Declarations
Funding:there is no funding for this study.
Conflicts of Interest:the authors declare that they have no conflict of interest.

Ethics approval: Approval was obtained from the ethics committee of Department of Surgery,Assam Medical College(SrimantaSankardeva University Of Health Sciences),Dibrugarh,Assam,India.The procedures used in this study adhere to the tenets of the Declaration of Helsinki.
Consent to participate: Written informed consent was obtained from the parents.
Consent for publication: The participant has consented to the submission of the case report to the journal.
Availability of data and material: not applicable
Code availability: not applicable
Authors' contributions: Syed Abul Fazal ,Sheeba Perween contributed to study design, analysis and interpretation of data, drafting the article and approved the final version for publication**.**

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