Case Report

DOI: 10.21276/APALM.2331

Retroperitoneal Teratoma in An Infant: Case Report

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ABSTRACT

Common location of teratomas in children are sacrococcygeal, gonadal, mediastinal and retroperitoneal, but teratomas may also occur at very unusual locations. A one-year-old girl presented with a large swelling at her left abdomen. Clinical examination revealed a solitary, non-tender, soft to firm, irregular cystic mass, occupying her left abdominal region. Computed Tomography (CT) scan finding was consistent with retroperitoneal teratoma. Complete surgical excision of the tumour was done without any difficulties. Histology of the excised tumour was conclusive of mature cystic teratoma.

Keywords: *Children; Infant; Surgical Therapy; Teratoma; Retroperitoneal Tumour*

Introduction

Teratoma is a term derived from Greek words teratos/teras, meaning "monster," and onkoma/oma, meaning a swelling, tumour or neoplasm. A teratoma is a true tumour or neoplasm having multiple tissues of kinds foreign to the parts in which it arises. The tumour consists of the tissues that arise from embryonic ectoderm, mesoderm and endoderm. Common locations of teratomas in children are sacroccocygeal, gonadal, mediastinal, and retroperitoneal [1-5]. Teratomas may also occur at very unusual locations. Intra-peritoneal teratomas arise from mesentery and mesocolon, gastric teratoma, spinal teratoma, teratoma occurring at cervical region. Intra-cranial teratomas occur at medulla oblongata. Teratomas may arise from liver and kidney as well [6-10]. Here, we present a case of retroperitoneal teratoma in a one year old female child.

Case Report

One year old female infant presented with left abdominal mass since 7 months of age. Clinical examination revealed a solitary, non-tender, soft to firm, irregular cystic mass, occupying her left abdominal region. An abdominopelvic computerized tomography scan revealed a 13.5 cm x 10.4 cm x 9.8 cm-large cystic lesion with calcifications/bony elements scattered in it. The urinary bladder, uterus and ovaries were normal for the age. The preoperative radiological diagnosis was retroperitoneal teratoma. At laparotomy, the excised retroperitoneal mass was partly encapsulated, greyish white to greyish brown tumorous lesion with the smooth surface, and the pedunculated extension of the tumour at one focus weighing 584gms, and measuring lateral medial 14.5x11.0x8.5cm. The consistency was cystic to soft in multiple foci [Fig 1].

On sectioning through the tumour proper, a solid cystic tumorous lesion with the cystic component significantly located towards the periphery, a few of them containing brownish altered chocolate like fluid was noticed. The rest contained clear or mucinous content within. The solid portion had a greyish white slimy appearance mostly without apparent evidence of necrosis. There was condensation of the capsule towards the periphery which appeared thinned out. On sectioning the pedunculated extension of the tumour, similar appearance of predominantly solid configuration is noticed. Areas with tan-white, soft and lobulated, with multiple islands of cartilage and bony elements were also noticed. There was no grossly recognizable ovary, fallopian tube, placenta or umbilical cord.

Histopathological examination revealed a neoplasm containing a conglomerate of derivatives of ecto, endo, and mesoderm is variable proportion, mature in nature. Extensive areas of mature adipocytes (lipid tissue), well defined scattered foci of mature hyaline cartilage, smooth muscle and skeletal muscle component, cystic glandular structures are discernible [Fig 2]. Large cystic areas lined by colonic mucosal epithelium with underlying smooth muscle component and lymphoid element with well-defined germinal centers were noted. Scattered foci of mature bone containing marrow element within was also observed [Fig 3]. Elsewhere, gland like structures lined by ciliated columnar mucosa without any atypia was seen.

There was no apparent evidence of primitive neuroepithelial tissue, immature hyaline cartilage or formation of rosettes. No apparent evidence of endodermal sinus tumour component was observed.

Elsewhere, scattered nerve bundles, a few exhibiting mature ganglion cells was noticed. There was no evidence of necrosis, mitotic activity, atypia or haemorrhage.

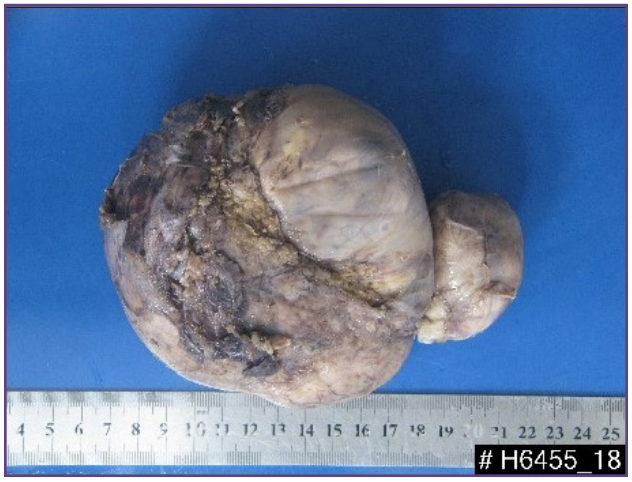

Fig. 1: Tumorous mass with smooth surface.

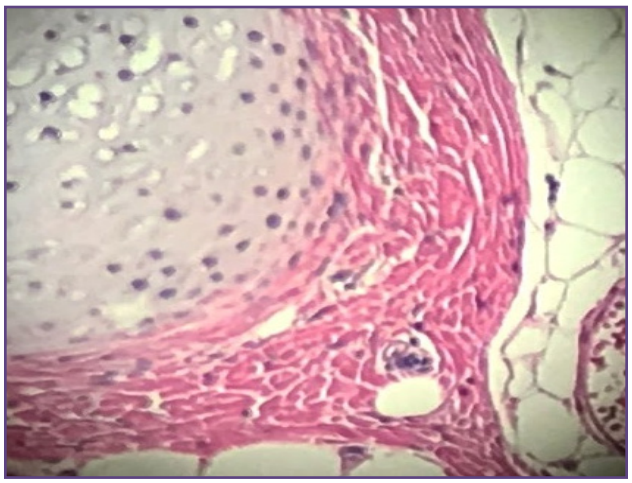

Fig. 2: Cartilage, muscle and adipose tissue.

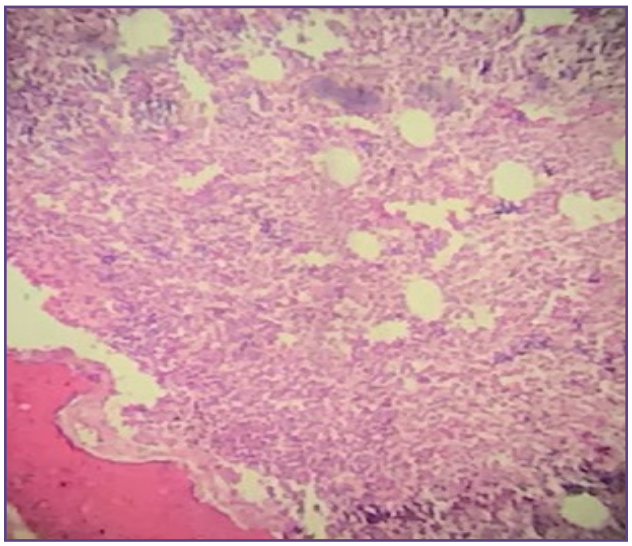

Fig. 3: Mature bone with marrow elements.

Discussion

In our present case, the teratoma was located at the retroperitoneum. Distinctive teratomas originating in the retroperitoneum were recognized by Morgagni and Benivieni in the 18 th century. The patients with retroperitoneal teratoma have ranged between newborn infants and individuals in the 6 th decade of life; majority under 17 months, with a higher female incidence [11]. Immature neuroectodermal tissues predominate in teratomas of this location. In the present case, the excised retroperitoneal mass had no immature elements. Wiess and others have reported a case of ovarian fetiform teratoma with no immature elements [12]. In children, the two most common retroperitoneal tumors are Wilms tumor and neuroblastoma. It is also important to rule out a gonadal germ cell primary tumor [13].

Irrespective of location, complete surgical excision remains the mainstay and a therapy of choice for teratomas. Complete surgical excision alone is adequate therapy for non-malignant mature teratomas [1]. Sometimes it is not possible to completely excise the teratoma due to various reasons including its difficult locations, adhesions, and its close proximity with great vessels [5]. Malignant teratomas require post-operative adjuvant therapy [2-4]. In present case it was possible to suspect during the investigation that, this was a case of teratoma due to the presence of bony elements, and it was also possible to excise the tumour completely.

Recurrence following the surgical resection of the teratoma has been reported and it mostly depends upon the histological features of the tumours. It is more commonly evident in the cases with immature and malignant teratomas, although rarely also observed following excision of mature teratomas. For the above reason a close and long-term follow-up is advisable and if recurrence is noted prompt therapy must be instituted accordingly [1,5]. Measurement of serum AFP during follow-up period is a reliable method for detecting the recurrence in the cases of teratomas and it is a must for the cases of immature and malignant teratomas. Raised serum AFP levels in patients with immature teratomas have higher risk of malignancy than with normal serum AFP levels [2,6,10].

In our case, we recommended close follow up with serum AFP levels.

Conclusion

Retroperitoneal teratomas in infants are to be differentiated from other common primitive tumors that occur in childhood. Complete surgical excision remains a best option to manage teratoma, and it is always preferable to completely excise the teratoma at the earliest during the neonatal period.

Reference

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Financial or other Competing Interests: None.