ORIGINAL RESEARCH PAPER

General Surgery

EXTRA GONADAL TERATOMA PRESENTING AS A RETROPERITONEAL LUMP : A RARE CASE REPORT DURING COVID ERA IN A POST COVID PATIENT

KEY WORDS: teratoma, retroperitoneal, covid

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ABSTRACT

Teratomas are rare neoplasms which are made up of mixed dermal elements derived from all three germ cell layers. Extragonadal teratomas generally seen in the anterior mediastinum, sacrococcygeal region, retroperitoneum, and pineal gland. A 24 year old post COVID woman presented to the Surgery OPD of Assam Medical College with history of an abdominal lump since 2 months and mild pain abdomen since 1 month. She also had a history of normal vaginal delivery 3 months prior to presentation. Radiological investigations indicated a diagnosis of retroperitoneal teratoma. The patient underwent resection of the mass through a midline approach and intaoperatively a retroperitoneal tumour was diagnosed filled with hair and sebum. The tumour was excised and sent for histopathology which confirmed our diagnosis of a benign or mature teratoma.

INTRODUCTION

Teratomas are uncommon neoplasms which are made up of mixed dermal elements derived from the three germ cell layers of ectoderm, endoderm and mesoderm.

Teratomas may be solid, cystic, or mixed and are classified as mature or immature.

Benign teratomas are composed entirely of mature fully differentiated tissues, while malignant tumors are identified by the presence of primitive (embryonic) tissue or by the presence of malignant components.

In 1949 Palumbo[1] presented a collective review of 58 cases of retroperitoneal teratomas and in 1951 Atnheim[2] collected 39 cases in infancy and childhood.

The majority of teratomas present congenitally in the sacrococcygeal region, within the ovaries of adolescent females and within the testes of young men, but on rare occasions they have been identified throughout the body.

Extragonadal teratomas are uncommon and generally seen in the anterior mediastinum, sacrococcygeal region, retroperitoneum, and pineal gland.

Retroperitoneal teratomas are very rare and studies have concluded for only 4% of all primary teratomas.[3,4]

Incidence is bimodal with peaks in the first 6 months of life and in early adulthood.[5]

The majority of cases present asymptomatically or with nonspecific complaints, or are identified incidentally. In some cases they present with a large abdominal lump, frequently accompanied by abdominal pain, nausea and vomiting, and weight loss, thus raising the suspicion of a gastrointestinal pathologic process.

Surgical excision of mature (benign) teratoma is the treatment of choice required and histopathological diagnosis is important. Prognosis is excellent after complete surgical excision with an overall five-year survival rate of nearly 100%.[6]

Here we report a case of primary mature cystic teratoma in a young female patient who discovered the an abdominal lump post her pregnancy.

AIM

To present a rare case of retroperitoneal teratoma presenting as an abdominal lump and successfully treated at the Department of General Surgery ,Assam Medical College and Hospital,Dibrugarh.

CASE REPORT

A 24 year old woman presented to the Surgery OPD of Assam Medical College with history of an abdominal lump since 2 months and mild pain abdomen since 1 month. Patient was apparently alright two months back, when she noticed a abdominal lump. It was gradual in onset and located in the epigastric region initially. It was progressive in nature and gradually increased in size. There was also history of on and off pain abdomen since 1 month which was initially around the epigastrium . It was a dull aching type of pain and radiated to the umbilical and hypogastric region. There was no relation with food intake and there were no agrrevating factors and it was relieved on medications. Pain was not related to micturition and defecation. She also had a history of normal vaginal delivery 3 months prior in AMCH and delivery was uneventful. She was Covid 19 positive on 14th may 2021 with mild symptoms and was put under institutional quarantine.

She was investigated thoroughly and had an ultrasonography abdomen and abdominal and pelvic CT scan done which revealed a mass of aprropximately 20 × 18 × 20 cm in size in the retroperitoneum in the left lumbar, epigastric and umbilical area containing multiple mixed tissue densities and the left kidney was grossly displaced. The tumour was without any evidence of distant metastasis. Tumour markers such as serum alpha-fetoprotein (AFP) and carcinoembryonic antigen (CEA) were not raised.

The patient underwent resection of the mass through a midline approach. Intraoperatively, retroperitoneal dissection was carried out and a well-circumscribed mass measuring 20mm × 180mm × 140 mm, was found with a capsule. It was not adhered to any major vessels and was excised. The specimen weighed about of 3 kgs. The specimen was cut open and it was filled with sebaceous-like material with identified hair. The left kidney and other adjacent structures were normal and it was relocated to its normal position after the tumour was excised. Also,the uterus and ovaries were normal and there were no residual tumour tissue left.

The specimen was sent for histopathological examination and

it was that of a mature teratoma with mixture of mature components like squamous and glandular epithelium, and hair tissue.

Post operatively the patient was given 1 unit of blood transfusion and was discharged on 7th day from hospital admission.

The patient is being regularly followed up for any episode of recurrence.

DISCUSSION

Very few case reports of the retroperitoneal teratomas have been documented in the literature till now and account for less than 10% of all primary retroperitoneal tumours with only 32 cases reported between 1937 and 1987.[7] It has a female preponderance with incidence twice of that in males.[8]

It is evidenced that extragonadal tumors occur primarily in neonates and young children, whereas gonadal tumors are more commonly noted in adolescents.[9]

Teratomas are composed of tissue that is foreign to the anatomic site in which they are found. Their usual locations include sacrococcygeal, mediastinum, retroperitoneum, and gonads. The migratory property of germ cells would explain teratomas in these extragonadal sites, which generally occur along midline structures.[7] Teratomas may be solid, cystic, or mixed and are classified as mature or immature. Immature teratomas can be potentially malignant, however the incidence of malignant transformation in mature teratomas is low.[9]

In the diagnosis of retroperitoneal tumor, germ cell tumors should be considered and tumor markers ordered prior to intervention.[10] The malignancy rate of 26% in adults is significantly higher than the 7% rate documented in children and Malignant teratomas may cause a rise in serum AFP.[5]

Retroperitoneal teratomas are usually asymptomatic. Clinical presentations are not specific and include nonspecific, abdominal/flank/back pain, distension, nausea and vomiting on compression of surrounding structures and obstructive genitourinary symptoms, as well as lower limb/genital swelling due to lymphatic obstruction.[7]

Complications such as secondary infections (abscess formation), traumatic rupture leading to acute peritonitis or malignant transformations are rare.

Radiographic investigations are crucial in diagnosing teratomas. Plain radiographs (X-ray) can identify calcified elements in 53-62% of cases. It may be within the tumour or on the rim of the cyst wall.[11]

Ultrasound (US) can greatly differentiate between cystic, solid and complex elements. Fluid may fill the dependent portion of the tumour producing a fat–fluid interface with the sebum.[12,13]

Cross-sectional imaging with CT or MRI will provide important information about the size and precise location of the tumor and its relationship to major vascular structures.

CT is specific for fat, proteinaceous fluid and calcification using the Hounsfield values determination and can better distinguish between adipose tissue and calcifications.[12]

The differential diagnosis of a retroperitoneal tumours includes bulky lymphadenopathy associated with lymphoma or testicular cancer as well as direct extension of primary malignancies of retroperitoneal organs, especially adrenal, renal, or pancreatic carcinoma.[14]

In addition to their diagnostic role, imaging studies are also of paramount importance in planning the surgical treatment as they can display the precise location, morphology, and adjacent structures of the tumour. In our study, CT scan helped in making the diagnosis and since there was no major vascular involvement, surgical resection was planned.

The mainstay of treatment for benign or mature teratomas include complete surgical excision for a histological diagnosis.[15] Prognosis is excellent after complete surgical excision with an overall five-year survival rate of nearly 100%.[16] However, malignant teratoma usually recurs despite surgical intervention, with a median survival of 18 months.[17]

Radiotherapy and chemotherapy do not have significance as teratomas are largely resistant to them and are used only if malignant features of germ cell tumors are identified on histopathology.

CONCLUSION

As seen in literature, very few documented cases of Primary retroperitoneal teratoma is described. It is a rare entity, with a variety of differential diagnosis. We herein reported a rare case of a 24-year-old female in whom a retroperitoneal teratoma was diagnosed by classical imaging morphology by ultrasonography and CT scan. However, tumour markers were not elevated. She was also a post covid patient. The tumour was resected and histopathololgy confirmed the diagnosis of extragonadal retroperitoneal teratoma, benign in nature which is also known as dermoid cyst.

IMAGES OF THE CASE

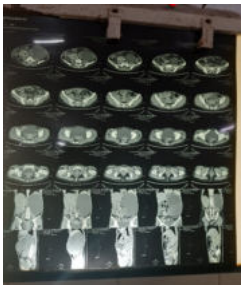

Fig 1: Ct Scan Showing A Retroperitoneal Lump

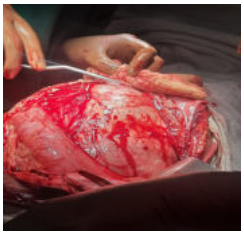

Fig 2: Intraoperative Finding

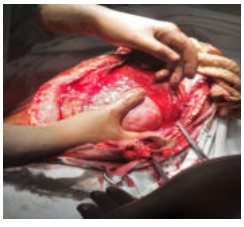

Fig 3: Intraoperative Finding

Fig 4: Cut Open Specimen Filled With Sebum And Hair

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