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CASE REPORT–Testicular Tumormimicking Mesenteric Cyst

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Abstract –
Background - Intra-abdominal masses will always remain as an enigma in the field of surgery. Most of them asses are non-palpable, and if palpable, their entire extent, size and origin are a mystery on the basis of only clinical examination. Cystic lesions arising from the mesentery and peritoneum are less commonly encountered and can be caused by relatively rare entities.
Case - A 30 year male presented with complaints of a gradually increasing lump in the abdomen, noticed first 3months ago. There was no abdominal discomfortor any features of intestinal obstruction.

Conclusion - The abdominal variant of cryptorchid testis is rare and carries a high risk of malignant transformation. While it is unusually seen in adults, it must be borne in mind during clinical evaluation of the patient.

Keywords: testicular-tumor; mesenteric-cyst; laparotomy; gastrointestinal-surgery

I. Introduction

Intra-abdominal masses will always remain as an enigma in the field of surgery. Most of the masses are non-palpable, and if palpable, their entire extent, size and origin are a mystery on the basis of only clinical

examination. Usually, cystic lesions identified on clinical examination arise from a solid organ. However, in case of large or multiple cystic lesions, the organ of origin is difficult to determine. Cystic lesions arising from the mesentery and peritoneum are less commonly encountered and can be caused by relatively rare entities.[1]
This case is one such example of the same. The lump that initially appeared to be abdominal turned out to be an extraperitoneal mass. It was proved be a mass arising from undescended testes.Initially what was thought to be a mesenteric cyst, due to the typical clinical presentation was proven otherwise. The diagnosis was finally cinched with the help of clinical examination and histopathology and was labeled as a malignant testicular tumor.

Testicular cancer is a rare disease. The incidence of testicular cancer in undescended testes is of 3 to 10 times[2] greater than in the general population, as per a study done by Carmona Campos et al. The existence of undescended testesin the adult population is rare due to systematic practice of elective orchidopexy before the second year of life and orchiectomy in post-adolescent males with undescended testes. Despite these prevention measures, there are still some isolated cases of intra-abdominal testicular tumors in adults.

Cryptorchidism (testicular maldescent), the most common congenital anomaly of the genitourinary tract in males, is encountered in 1% of boys. Such an organ is at high risk of torsion, trauma, infertility, and malignancy. This case however presented in an adult with an abdominal mass.

II. Case presentation -

A 30 year male presented with complaints of a gradually increasing lump in the abdomen, noticed first 3months ago. There was no abdominal discomfort, no features suggestive of intestinal obstruction. The patient had presented in the OPD to remove the mass.
On examination, the patient had short stature and appeared otherwise healthy. Physical examination of the abdomen revealed a tense, cystic, well-defined mobile mass in the hypogastric region measuring 17 cm x 9 cm x 8 cm in size, with well-defined borders. There was a dull note on percussion. It was mobile in the all directions. The inferior border of the mass was well defined.

On further examination, it was found that the patient has no palpable testis in the well-developedleft scrotum.A 2x1cm palpable mass present in left inguinal region, with positive cough impulse.All other systems were normal.

Fig 1 - Preoperative photo

The complete blood values, liver function tests and renal function tests were within normal range. AFP, CEA, LDH, PLAP and B-HCG levels were normal. Abdominal ultrasound and CECT showed evidence of 12.7 x 10.5 x 8.3 cm sized, large, well-defined, heterogeneous, solid cystic lesion noted in the umbilical region extending to

LIF and RIF with no detectable internal vascularity or calcification along with empty left scrotum. There was a left inguinal hernia, reducible with omentum as content, with a defect of 1.9 cm on ultrasonography of scrotum.

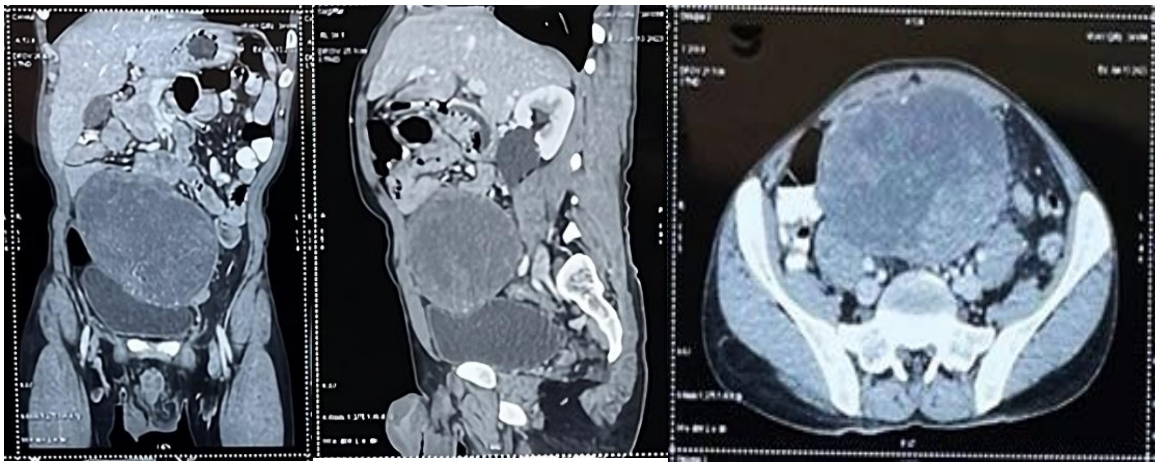

Fig 2 - Computed tomography imaging as seen above, in coronal, sagittal and transverse planes respectively

At exploratory laparotomy through midline incision, a huge heterogenous solitary oval shaped cyst was found intraperitoneally, extending from cecum till sigmoid, and from umbilicus till bladder with few adhesions.The cyst had a superior pedicle containing venous plexus (Pampiniform plexus) and artery, along with cord like structure (Vas deferens). The pedicle continued till inguinal canal. The cyst was completely excised with the pedicle, along with the left inguinal hernia content, and both specimens sent for histopathology. The patient withstood surgery well, and was discharged in 2 days postoperatively.

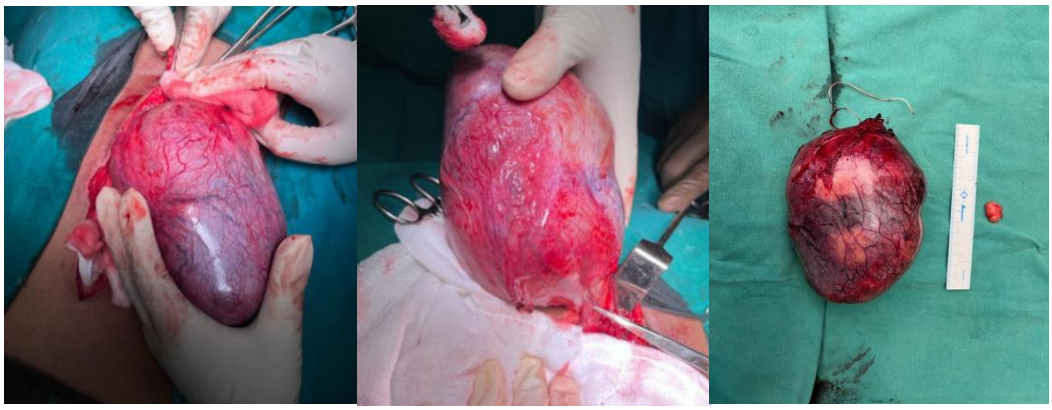

Fig 3 – Intraoperative photos of the mass excision done during laparotomy

At Histopathological examination, hemorrhagic fluid, solid and friable grey-white areas involving whole testis was identified. Microscopically, tumor was composed of poorly demarcated lobules of seminomatous cells interspersed by thick fibrocollagenous septa with extensive areas of tumor necrosis, confirming the diagnosis to be a seminoma of the testes. The left inguinal mass sent for histopathlogy was confirmed to have fibrofatty tissue with no tumour or testicular tissue seen on microscopy.

The patient was diagnosed as a Stage 1 seminoma, with no evidence of lymphovascular emboli or perineural invasion or spread of the malignant cells. Follow up of the patient on postoperative day 12 was unremarkable, and he was made to follow strict observation and routine surveillance by the oncologist. He is called back for the 1 year follow up.

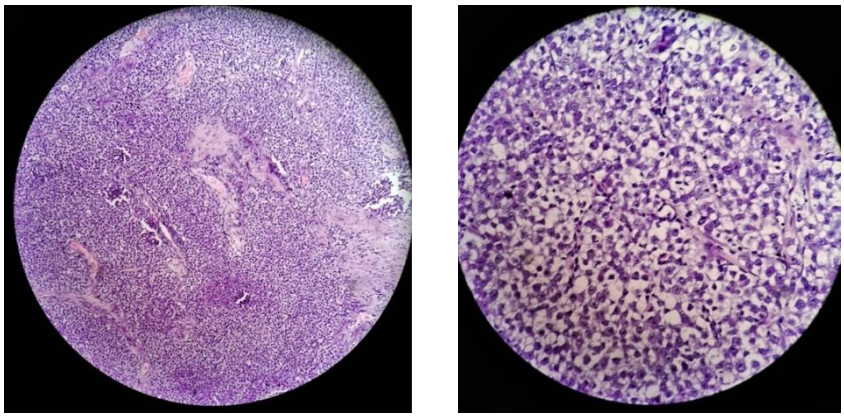

Fig 4 – Hisptopathological examination of the slide showing seminomatous cells suggesting the tumor to be a seminoma, in low magnification and in high magnification

III. Discussion

The testicular cancer represents 1-2% of all male malignant tumors and 4% of the urogenital ones. Testicular cancer has a lesser rate of occurrence especially in Asian countries.[3]It is the more frequent solid neoplasia in young men between 20-35 years meaning the 1-2% of total tumors.[4]There are many etiological proposed factors in the development of testicular cancer: trauma, testicular atrophy, and gonadal dygenesis, being cryptorchid and the history of tumor in the contralateral testicle the most significant.In cryptorchidic testes the incidence of testicular cancer is considered between 3 to 48 times greater than in the general population.Approximately 10% of all the testicular tumors give history of an undescended testicle.[3]
Cryptorchidism affects 2-4% of young men worldwide, as peras study done by KALAN et al[1]. The non-palpable testes correspond to a 20% of the cryptorchid testes. Of the non-palpable testes, only in 20% of the cases it is absent, the rest is in the abdomen or the inguinal canal. Between undescended testes, abdominal testes present a higher rate of malignancy than the ones located in the groin inguinal. The abdominal testescould develop cancer in 30% of cases.[6]

The tumors in undescended testes are rare, moreover rarely presenting as an abdominal lump. The histopathology of the undescended testicle tumors in the adult depends on location, being the proportion of pure seminoma of 93% when it is in intra-abdominal situation, 63% if it is inguinal and 28% in normotopic testes.[7]The prognosis will depend on initial stage and tumor histology.
Presently, it is uncommon to find an adult with undescended testes because of the methodical practice of elective orchidopexy performed before the age of ten. This indicated a noteworthy decline in the testicular cancer rates.[9] Having stated that, orchidopexy makes the testicles available for examination but does not completely reduce the possibility of malignancy.

Seminoma is one of the most curable tumors, with cure rates approaching 100% and high sensitivity to chemotherapy.[8]The ESMO guidelines recommend orchiectomy as the standard treatment for testicular seminoma, with partial orchiectomy considered in specific cases. Surgery should precede further treatment unless metastatic disease is life-threatening with a clear germ cell tumor diagnosis. Tumor markers should be assessed pre- and post-surgery to monitor normalization. Radical orchiectomy is preferred via an inguinal incision to avoid scrotal violation. Organ-preserving surgery may be considered in specialized centers for certain indications. Treatment for testicular intraepithelial neoplasia (TIN) should be individualized, balancing fertility preservation and eradication options, with surveillance or delayed definitive treatment recommended based on patient preferences and fertility concerns. [10]

The most important prognostic factor for seminoma is the clinical stage at presentation. Rest of the pathologic parameters, including the intensity of lymphoplasmacytic infiltration, the degree of granulomatous reaction, tumor necrosis, fibrosis, invasion, and interstitial cell hyperplasia, do not correlate with survival.[8]

There are many studies published on cryptorchidism and cancer in undescendedtestes. However, there is no long series of intra-abdominal testicular tumors presentingin adults, in the literature. The majority of them are case reports. Searching in PubMed, they are approximately 42 clinical cases of seminomas in intra-abdominal testes published. Eventually, there were less published cases due to advances in investigation on the evolution of undescendedtestes, its relation with cancer and the preventive actions taken.

IV. Conclusion

The abdominal variant of cryptorchid testis is rare and carries a risk of malignant transformation. While it is unusually seen in adults, it must be borne in mind during clinical evaluation of the patient. The incidence of adult testicular cancers preceded by crytoporchidism could decrease with a proper diagnosis and surgical treatment during childhood.

V. Disclosures

Conflict of Interest: The authors declare that they have no conflict of interest.

Human/Animal Rights: All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2008(5).

Informed Consent: Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request

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