A Giant Retroperitoneal Malignant Mixed Germ Cell Testicular Tumour

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INTRODUCTION

Cryptorchidism is the most common congenital malformation of the male genitourinary tract. The cryptorchid testis is most often located in inguinal canal; however, intraabdominal locations are not rare. The risk of malignancy in an undescended testis is 10 % with the greatest risk in an intraabdominal testis. This is case report of a 45-year-old fertile male, a right sided known cryptorchid who presented with a huge lower abdominal mass with obstructive symptoms. After evaluation and narrowing the differentials with the help of Magnetic Resonance Imaging (MRI) and tumour markers, patient underwent exploratory laparotomy and radical surgical excision with lymphadenectomy. Histopathology revealed malignant mixed germ cell testicular tumour and was followed by adjuvant chemoradiotherapy and close surveillance.

Cryptorchidism or undescended testis is a congenital deformity where one or both the testis fail to descend into the scrotum which is seen in less than 1 % of infants.[1] This Un-Descended Testis (UDT) might be found in the lumbar, iliac, inguinal or upper scrotal regions of which superficial inguinal pouch is most common. In about 10 % of individuals the testis may be intraabdominal in position.[2] The risk of malignancy in the cryptorchid testis is greater by 2.5 to 8 times with highest of 14 times seen in intra-abdominal testis.[3] The prepubertal orchidopexy facilitates observation by regular examination and thus helps in early diagnosis of malignancy but does not prevent the malignant transformation.[4] Testicular seminoma is a germ cell tumour derived from Germ Cell Neoplasia In Situ (GCNIS) and is the most common type of malignant transformation seen in 93 % of intraabdominal testis with peak incidence in 3rd and 4th decades of life.[5,6]

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PRESENTATION OF CASE

A 45-year-old fertile male, a known case of right undescended testis who presented with complaints of a lump in right lower abdomen for 5 years. The lump had gradually increased to attain the present size over the years with recent onset of sharp pain over the lump for past 2 weeks. Patient had history of chronic constipation with occasional episodes of intestinal obstruction relieved by hospitalization and conservative treatment. No history of fever or any significant loss of weight. On physical examination, patient was comfortable, moderately built and nourished. Vital signs were stable. No generalised lymphadenopathy. Abdomen was soft with a 15 x 10 cm palpable mass occupying right iliac fossae, right lumbar region and hypogastrium with well demarcated superior extent to the level of umbilicus, medial extent crossing midline and an ill-defined lower border. The abdominal mass was firm in consistency, tender to touch, not freely mobile and no movement with respiration. Flanks were free with no signs of ascites. Right hemiscrotum was empty whereas the left hemiscrotum was normal with palpable testis. Penis was normal for age.

Investigations

Contrast Enhanced Computed Tomography (CECT) abdomen and Magnetic Resonance Imaging (MRI) pelvis was done which showed a 16 x 14.8 x 9.2 cm lobulated solid lesion with few cystic areas in the right iliac fossae infiltrating the retroperitoneum with adjacent multiple encased lymph nodes in it. All radiological features were suggestive of undescended testis with malignant transformation and regional lymphadenopathy with no distant metastasis. Serum tumour markers were done and LDH – 596 U / L was found to be increased whereas AFP - 1.39 ng / mL, beta HCG - 9.22 mIU / mL and Ca19 – 9 - 33.78 U / mL were within normal limits.

DIFFERENTIAL DIAGNOSIS

Differential diagnosis for intraabdominal undescended testis includes retroperitoneal sarcoma, GIST (Gastro-Intestinal Stromal Tumour), mesenteric lymphadenopathy, lymphoma, and peritoneal metastasis and desmoids tumours. Serum tumour markers such as AFP, LDH and beta HCG are frequently raised in testicular tumours, especially of germ cell type and are helpful in narrowing the diagnosis and planning treatment.

DISCUSSION OF MANAGEMENT

On exploratory laparotomy, a 16 x 14 x 12 cm lobulated tumour mass consisting of tumour, testis and encased retroperitoneal lymph nodes as shown in figure 1 & 2; was found adherent anteriorly to the lateral abdominal wall muscles, superiorly to the bowel and mesentery and inferiorly indenting the dome of urinary bladder with serosal breach. Adhesiolysis with bladder separation was done. En masse excision of the tumour with retroperitoneal lymphadenectomy was done (Figure 3).

Follow-Up

Postoperative period was uneventful, and patient discharged home on 4th postoperative day. Histopathological examination (Figure 4) was suggestive of malignant mixed germ cell tumour with predominant seminomatous and focal yolk sac tumour component. Adjuvant chemoradiotherapy was given and patient is disease free on a close 2 year follow up.

Figure 1.
16 x 14 x 12 cms Lobulated Tumour Mass Consisting of Tumour, Testis and Encased Retroperitoneal Lymph Nodes on Laparotomy

Figure 2.
Tumour Mass with Serosal Breach Onto the Dome of Urinary Bladder

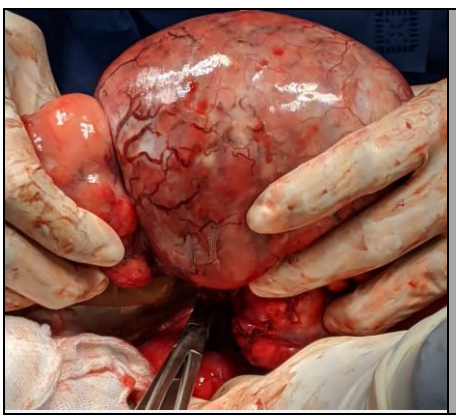

Figure 3.
En-masse Excision of the Tumour with Retroperitoneal Lymphadectomy was Done

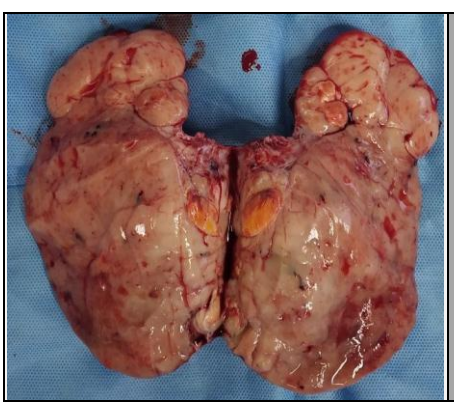

Figure 4.
Cut Section of the Specimen with Tumour Mass and Lymph Nodes

DISCUSSION

Cryptorchid males have a decreased fertility potential as the spermatogenesis is absent.

Undescended testis is associated with renal anomalies in 3 - 5 % individuals and has the potential for malignant transformation. These patients may present with a mass per abdomen or inguinal region with pressure symptoms like urinary disturbances and bowel obstruction due to secondary mass effect.[1,7] Such patients may also present with an acute abdomen in case of torsion or episodic pain due to intermittent torsion and detorsion of the testicular mass.[7] Ultrasonogram helps in locating the testis or an equivalent mass in the inguinal region or the abdomen in case of cryptorchidism. Contrast enhanced computed tomography abdomen and magnetic resonance imaging pelvis are useful for the confirmation of diagnosis and to delineate the extent, depth of tumour, relation to adjacent structures and regional lymph node status which helps in planning of further management. Serum tumour markers adjunct to the diagnosis and are also

helpful in postoperative monitoring. Surgical en-bloc-excision of the tumour and the involved lymph nodes relieve the patient from pressure symptoms due to mass effect and prevent the complications like tumour rupture, ischaemia and gangrene due to torsion or bleeding. The histopathological evaluation is useful to detect the type of tumour thereby helps in the further management and prognosis. As the testicular tumours are sensitive to chemoradiotherapy and the residual tumour has low viability, radical lymph node dissection has a limited role.[7] Adjuvant therapy is warranted and should be carefully selected to avoid toxicity and to achieve better survival rates. Prognosis of testicular cancer is favourable with a 1-year and 3-year survival rates of 98.3 and 96.8 % respectively as per the Japanese study series.

CONCLUSIONS

Every undescended testis beyond first 6 months of life should be brought to the scrotum as early as possible using appropriate surgical technique. In adolescents and adults with cryptorchidism, early diagnosis and treatment reduces the risk of testicular cancer by many folds. Testicular tumours presenting as intraabdominal masses should undergo radical surgical excision followed by appropriate chemoradiotherapy to achieve good prognosis.

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