

## Huge Retroperitoneal Mixed Germ Cell Tumor in Cryptorchid Testis

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**Abstract:** The increased risk of testicular germ cell tumor in males with a history of cryptorchidism has been known for many years. The overall relative risk of malignant transformation is 4 to 6 times. Most common tumor in a long standing cryptorchid testis is seminoma.

In our case, mixed germ cell tumor was found in a large mass {32 x 18 c.m.}, arising from right side of cryptorchid testis. The clinical details and difficulties in diagnosis of this testicular tumor are discussed.

**Key Words:** Cryptorchid testis, mixed germ cell tumor

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### I. Introduction

Testicular cancer is the most common malignancy among men aged 20 to 40 years.[1,2]. Males with cryptorchidism are four to six times more likely to be diagnosed with testicular cancer.[1] Cryptorchidism is a developmental defect in which the testes fail to descend completely into the scrotum. Isolated cryptorchidism affects 3% of full-term male newborns. True undescended testis is unilateral in 80% cases. Approximately 70-77% of cryptorchid testes will spontaneously descend, usually by 3 months of age. [3]. Approximately 10% of testicular tumors arise in undescended testes. The higher the position of an undescended testis, the greater is the risk for development of malignancy. Almost half of the tumors that occur in testes are located abdominally, with 6-fold higher frequency than in an inguinal testis. The most common tumor that develops from the cryptorchid testis is the seminoma. Complications of intra-abdominal testis such as torsion, rupture and bleeding are rare. We describe a case of huge mixed germ cell testicular tumor, predominantly seminoma and teratoma that developed in a right cryptorchid testis.

### II. Case Report:-

A 33 years old male presented with a huge lump in the right flank for one month, associated with occasional dull aching pain. On admission, his pulse rate was 90 beats/minute and his blood pressure was 120/80mmHg. His abdomen was grossly distended. On palpation tenderness was absent. A large diffuse, ill defined mass was palpable which involved almost the whole of right side of abdomen, crossing the midline and reaching up to the left midclavicular line. In Laboratory findings CBC and biochemical examination were normal. Ultrasonography of the abdomen was suggestive of a huge abdominopelvic space occupying lesion possibly retroperitoneal in origin. A CT scan of the abdomen was performed and the results suggested a large well defined complex cystic space occupying lesion in the right side of abdomen displacing bowel loops probably a mesenteric cyst [FIG-2]. Hypoplastic right kidney with dilated pelvis of both kidneys due to back pressure was seen. CT guided FNAC was done suggestive of 'CYSTIC EPITHELIAL DYSPLASIA'. The patient had a right undescended testis and a normally descended left testis. After this finding, a re-examination of the patient's history revealed that he had untreated cryptorchidism on the right side since childhood. Then, in view of the possibility of a testicular tumor in the right undescended testis, serum tumor markers were done, which showed an increase in Alpha-fetoprotein, 184.24ng/ml, serum B-HCG 910.0 ml U/L and serum LDH 190 units/l. Exploratory laparotomy was done under general anesthesia and a huge, approximately 32 x 18 c.m. mass was found in the abdominal cavity [FIG-1], extending up to the right deep inguinal ring. The right undescended testis was found in the right retroperitoneum just below the lower pole of right kidney, attached to the right posterolateral aspect of the mass [FIG-3]. After excision of the mass along with the right testis, complete abdominal exploration was done and no other mass or suspicious lymph nodes were found. The excised mass was sent for histopathological examination (HPE). The postoperative period was uneventful. HPE revealed a mixed germ cell tumor (predominantly a seminoma and teratoma) [FIG-4]. After one month, post operative tumor markers were Serum  $\beta$  hCG <0.60mIU/ml, serum Alpha Fetoprotein 3.28ng/ml and Serum LDH 192 units/l. In post operative CT scan no residual mass or lymphadenopathy was found.

### **III. Discussion**

Approximately 10% of testicular tumors arise from undescended testes, and the risk of developing a germ cell tumor when a cryptorchid testis is intra-abdominal is about 5%.[4]. The higher the position of undescended testis from the scrotum, the greater is the risk for development of malignancy. In mixed groups of men treated for cryptorchidism, the risk is typically 4 to 6 times higher than in the general population. The incidence curve rises steeply after the onset of puberty, and occurrences are most frequent in men in their 20s and 30s; 50% are diagnosed before the age of 35. While orchidopexy improves fertility, it does not alter the risk of developing carcinoma. Rather, it allows clinical surveillance of patients with a previously impalpable gonad.[5] The most common tumor that develops from the cryptorchid testis is seminoma. Ultrasonography, magnetic resonance imaging, computed tomography and Gallium scanning are usually used in the monitoring of an intra-abdominal testis.[6].

Our case presented mixed seminomatous and teratoma in a right undescended testis in an adult. The seminoma is the most common testicular tumor of adult. It occurs most frequently in combination with other histological types and this non seminomatous part is responsible for the production of AFP. Serum tumor markers; HCG and AFP are important for diagnosis, prognosis and follow-up. If the AFP level does not return to normal post orchidectomy, metastatic disease must be suspected.[7]. Lymphatic spread is common to all germ cell testicular tumors except pure choriocarcinoma which disseminates by vascular invasion.

Patients presenting with non-seminomatous germ cell tumor (NSGCT) are subdivided in to low and advanced stage disease. Patients with low stage NSGCT may be candidates for surveillance, chemotherapy or retroperitoneal lymph node dissection (RPLND), depending upon clinical staging, serum tumor markers and tumor histological findings. On the other hand, patients with advanced disease are further sub-categorized into good and poor risk categories and are then subjected to primary chemotherapy depending on the nature of their disease.[8]

### **IV. Conclusion**

Retroperitoneal mass is not an uncommon presentation in cryptorchid testicular neoplasia but radiological study and FNAC cannot give accurate diagnosis so history and clinical examination is very important in diagnosis of a retroperitoneal lump.

In our best of knowledge and after extensive internet search this is the largest such mass excised till date.

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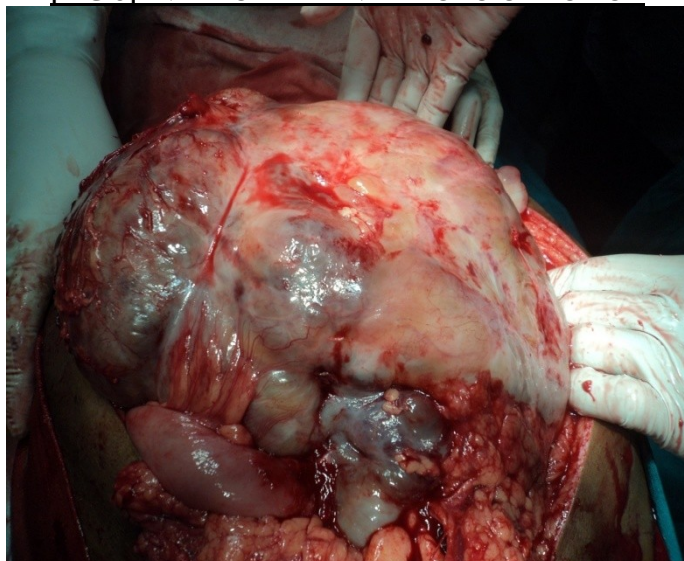
**[FIG-1] GROSS SPECIMEN OF MASS**



**[FIG-2] CT SCAN OF MASS**



**[FIG-3] INTRAOPERATIVE PHOTO OF TUMOR**





**[FIG-4] HISTOPATHOLOGY OF TUMOR**

