

## Spontaneous Rupture of Intra-Abdominal Seminoma: A Case Report

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**Abstract:** Testicular tumors are rare and Intra-abdominal testicular tumors in an undescended testis constitute 10% of all testicular tumors. The rupture of an intra-abdominal testicular tumor presenting as abdominal pain is an even rarer event. We report a case of a 49 year old male presenting with bilateral direct inguinal hernia with abdominal pain caused due to rupture of an intra-abdominal seminoma in an undescended testis.

**Keywords:** Intra-abdominal testicular tumor, seminoma, spontaneous rupture, undescended testis.

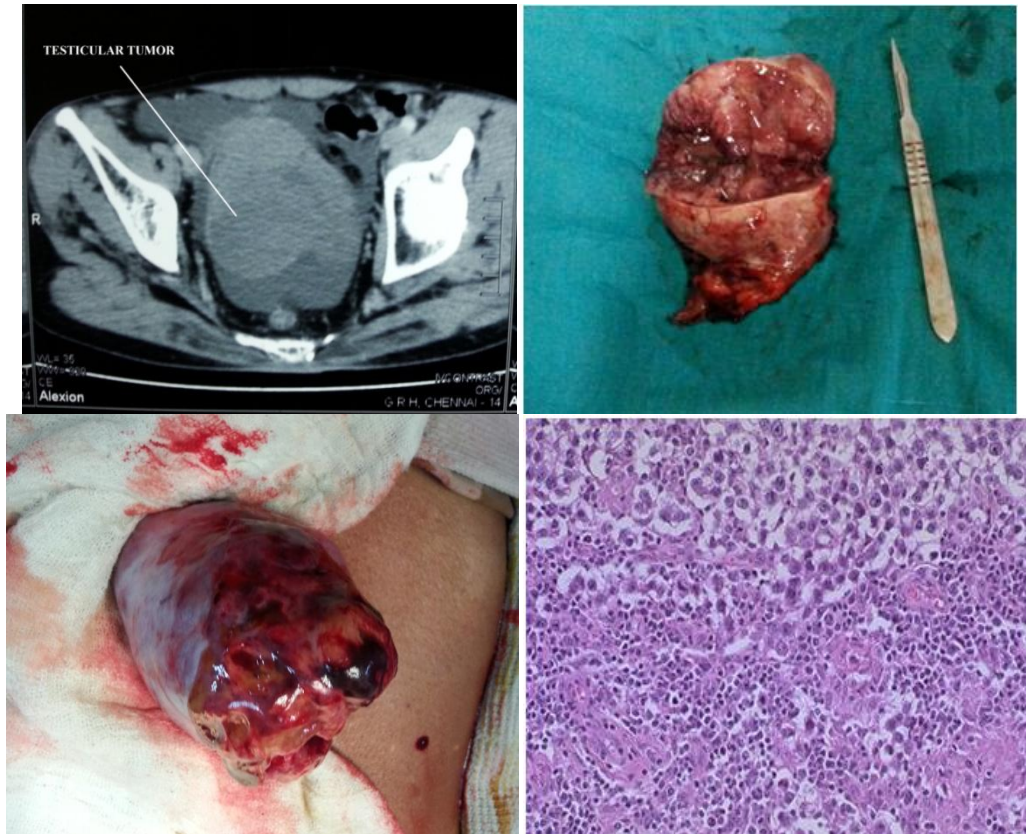
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### I. Introduction

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. Approximately 10% of testicular tumors arise from 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 malignancy in an undescended testis is seminoma. Seminoma is the most common testicular tumor in the fourth decade of life and constitutes 60% to 65% of germ cell neoplasias. While most are asymptomatic, complications of intra-abdominal testicular tumor such as torsion, rupture and bleeding are rare.

### II. Case Report

A 49 year old male patient present with abdominal pain for 3 days and swelling in both groins for 1 year. He had no known co-morbidities and was an occasional drinker and smoker. Patient was admitted for further evaluation. Patients BP on admission was 130/90 and pulse rate was 82 bpm. On examination, patient was conscious, oriented, afebrile and moderately built. His per abdomen findings showed mild tenderness in the umbilical region. There was no organomegaly. Local examination of the inguinal region revealed that the patient has bilateral direct inguinal hernia. Examination of the external genitalia shows absent right testis and poorly developed right scrotum, contralateral testis and scrotum was normal, penile shaft and meatus was also normal. Routine lab investigations- CBC- Hb- 10.2gm% , TC- 7300 cells/mcl , Plt- 1.2lakhs/mcl, RFT- RBS- 110mgs/dl , Urea- 20mgs/dl, Creat – 1.8mgs/dl. His Sr Electrolytes and LFT were normal. ECG was also normal. An X-ray of the chest (erect PA view) and Abdomen (erect) were normal study. Ultrasonogram of the abdomen showed a hypochoic mass 8x7x6cm posterior to the bladder with area of break down and peritoneal fluid collection. The next day CECT abdomen was done and showed a heterogenous mass 8x7x6 cm just behind the bladder with peritoneal free fluid and bilateral inguinal hernia. All other solid organs are normal. An intra-abdominal testicular tumor was suspected and tumor markers were done that day itself. Tumor markers showed elevated  $\beta$ -HCG – 600  $\mu$ IU/ml, LDH-109.4 U/L, AFP-4.0 ng/ml. Patient was provisionally diagnosed as right intra-abdominal testicular tumor with seminoma being the suspected histopathological type. Since the patients vitals were stable and no sign of peritonitis was seen, the patient was kept on observation and Open Laparotomy and proceed was planned electively the next day. Intra-operative findings were an intra-abdominal testicular tumor around 8x7x6 cm just posterior to the bladder and attached to the deep inguinal ring via a long pedicle with 300ml of serosanguinous free fluid collection. The superior pole of the tumor showed signs of necrosis and hemorrhage. There were no signs of lymphadenopathy and metastasis. Orchiectomy was performed and the specimen with the peritoneal fluid was sent for histopathology and fluid cytology. Histopathology result showed sheets of relatively uniform tumor cells divided into poorly demarcated lobules by delicate fibrous septa. Cells are large, round-polyhedral with abundant clear/watery cytoplasm and large central nuclei which are features suggestive of seminoma. Scanty inflammatory cells with cystic debris and hemorrhage are also seen. Post opt period was uneventful and patient was discharged on 7 th post opt day. Medical oncologist advised chemotherapy. Patient was advised monthly followup.



### III. Discussion

In humans, testes develop in the abdomen and normally descend into the lower portion of the scrotum during the third trimester. During the descent, it may be arrested anywhere along its tract (cryptorchidism) or may migrate into an abnormal position (ectopic testis). The most common sites of undescended testis are high scrotal (50%), canalicular (20%), and abdominal (10%). The relative risk of malignancy is highest for the intra-abdominal testis (5%). Furthermore, an abdominal testis is four times more likely to undergo malignant degeneration than an inguinal testis. The higher the position of undescended testis from the scrotum, the greater is the risk for development of malignancy. Malignancy associated with undescended testes usually peaks in the third or fourth decade of life. Tumor in an abdominal testis is more likely to be seminoma, but tumors in testis previously corrected by orchiopexy are more likely to be nonseminomas. In mixed groups of men treated for cryptorchidism, the risk is typically 3.6 to 7.4 times higher than in the general population. Orchiopexy does not eliminate cancer risk but allows an early diagnosis by making testicles accessible to exploration. Pure seminoma constitute 65 % of intra-abdominal testicular tumors while Non-seminomatous germ cell tumors like embryonal, teratocarcinoma and choriocarcinoma together constitute 25 %.

Most intra-abdominal testicular tumors are asymptomatic, complications are rare. Complications include infertility, torsion, rupture and bleeding. Infertility being the most common complication. Presentations of symptomatic intra-abdominal tumors include infertility, mimicking appendicitis, incarcerated hernia, dysuria from mass effect on bladder, acute abdomen due to torsion and rupture with hemorrhage, dull ache or heaviness in lower abdomen, may present with metastasis like neck mass, cough, anorexia, vomiting, back ache, lower limb swelling and rarely gynecomastia.

In ultrasonographic scanning, most germ cell tumors are solid, hypoechoic tumors. Cystic degeneration may be seen as representing necrosis and hemorrhage. CT and MRI show heterogeneous soft tissue mass and retroperitoneal lymphadenopathy. CT is useful for metastatic evaluation and it also shows calcifications better and MRI is superior in terms of detecting hemorrhage. Tumor markers like  $\alpha$ -FP, LDH, B-HCG and PLAP are an important diagnostic tool and aids in the diagnosis of the histopathological type.

Three clinical stages for the determination of the extension of the tumour have been described. Stage I is where the tumour is limited to the testis with or without invasion of epididymis or the spermatic cord. In Stage II the tumour has retroperitoneal lymph node metastases. Stage III tumour has distant metastases. Germ cell tumour often gives lymph node metastasis, except from choriocarcinoma, which is characterized by early hematogenous spread. Age, tumour size, lymphovascular invasion, mitotic count, necrosis, percent of giant cell and tumour infiltrating lymphocytes are possible prognostic factors in the treatment of seminomas.

Treatment for stage I seminoma includes orchiectomy with radiotherapy, in stage II tumors chemotherapy (BEP regime) is added if the tumor is bulky i.e more than 5 cm in size and stage III there is no role for radiotherapy , only orchiectomy with multidrug chemotherapy. Last but not least followup and surveillance is an important part of the treatment as long-term studies indicate that patients with seminoma treated with radiation therapy have an increased risk of developing a second malignancy. There is also an increase incidence of the normal contralateral testis developing malignancy approx 20%. Followup includes physical examination, CT abdomen 3 monthly for first 2 years, 6 monthly thereafter , Tumor markers- monthly for first year, every 2 monthly for the second year and 3-6 months thereafter.

#### **IV. Conclusion**

In conclusion, despite the elevated risk of testicular cancer in patients with intra-abdominal testicles, we consider it a low incidence disease. This could be due to standard practice of orchidopexy in pre-adolescent patients and orchiectomy in post-adolescents ones with cryptorchidism. Acute abdomen is a very rare presentation in cryptorchid testicular tumor with two cases of ruptured intra-abdominal seminoma reported in the literature. To our knowledge, acute abdomen with haemoperitoneum caused by intra-abdominal rupture of a seminomatous germ cell tumor is a very rare presentation in cryptorchid adult males. Nevertheless pain, impalpability of the testicle, and increased risk of cancer and torsion are indications for orchiectomy.

#### **References**

- [1]. Spontaneous rupture of an intra abdominal seminoma is a very rare finding in a cryptorchid testicular tumor with only two cases reported in literature
- [2]. Watkins GL: haemoperitoneum resulting from rupture of seminoma in an undescended testicle. J Urol; 1970; 103: 447-448.
- [3]. Küçük HF, Dalkılıç G, Kuroğlu E, Altuntas M, Barışık NO, Gülmen M: Massive bleeding caused by rupture of intra-abdominal testicular seminoma: case report. J Trauma; 2002; 52:1000-1001.}