



Ruptured intra-abdominal testicular seminoma presented with massive hemorrhage: A case report

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Abstract

A 35-year-old male presented with acute abdomen with intra-abdominal hemorrhage. He had bilateral cryptorchidism and infertility. Immediate laparotomy was carried out. Excision of the tumor, right hemicolectomy and peritoneal toilet was done. Histology showed testicular seminoma and ischemic necrosis of the colon. Rupture of intra-abdominal testicular seminoma is a rare cause of acute abdomen and hemoperitoneum. We decided to present the case as ruptured intra-abdominal testicular tumor is very rare. Moreover this had involved right colon and required right hemicolectomy.

Received: Dec 16, 2019

Accepted: Feb 18, 2020

Published Online: Feb 24, 2020

Journal: Chronicles of Oncology

Publisher: MedDocs Publishers LLC

Online edition: <http://meddocsonline.org/>

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Keywords: Acute abdomen; Hemoperitoneum; Cryptorchidism; Intra-abdominal seminoma; Orchiectomy; Right hemicolectomy

Introduction

Undescended testis is one of the most common congenital anomaly of the genitourinary tract in males [1]. The incidence of undescended testis is about 3% among full term new born [2]. The testes can be arrested on the path of descent. This can be at the retroperitoneum, deep inguinal ring, in the inguinal canal or at the root of the scrotum. This is called true undescended testes. If it is deviated from its path of descent it is called ectopic testes. The incidence of testicular tumor is considered to be 40 times higher in abdominal testes than the general population.

About 10% of testicular cancer occur in undescended testicles [3]. Higher the position of testes greater the risk of malignancy. Testicular tumor which occur in undescended testes are usually seminoma. Other pathological variety have been reported in undescended testicular tumour also. Intra-abdominal testicular tumor commonly present as abdominal lump. Rarely it may present with one of the complication like, rupture, torsion and hemorrhage. Rupture of intra-abdominal testicular tumor is extremely rare. A very few cases have been reported in the literature so far.



Cite this article: Islam SR, Raza M, Sarkar SA, Poran S, Paul E. Ruptured Intra-abdominal testicular Seminoma presented with massive hemorrhage-A case report. *Chronicles Oncol.* 2020; 3(1): 1007.

Case report

A 35-year-old male presented in the emergency with abdominal pain and a vague lump and tenderness in the right ileac fossa. Ultra-sonogram showed a definite lump in the right ileac fossa with hemoperitoneum. He had absent testes in both hemi-scrotum and infertility (Figure 3). Urgent laparotomy was carried out. A large testicular tumor in the right undescended testis is noted with massive intra-peritoneal hemorrhage (Figure 1). About 500 ml of clotted blood mixed with necrotic tissue was found in the peritoneal cavity. Active bleeding was noted from the right testicular vessels attached with tumor (Figure 2). Adjacent cecum and ascending colon was found to be involved with the tumor. There was no palpable testis on the left side of the abdomen. Excision of the right intra-abdominal testicular mass and right hemi colectomy was done. Histology showed testicular seminoma (Figure 4) and ischemic necrosis of colon. Rupture of intra-abdominal testicular seminoma is a rare cause of acute abdomen and hemoperitoneum. His serum LDH, α -feto protein and β -HCG were found to be within normal limit. We decided to publish this rare presentation of ruptured intra-abdominal testicular tumor.

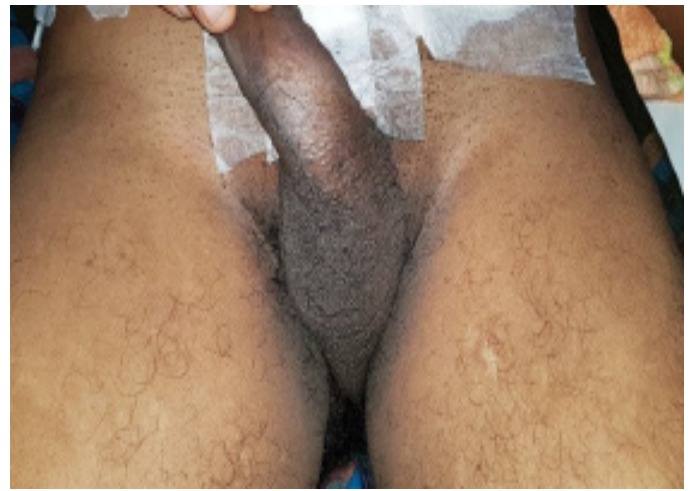


Figure 3: Bilateral Cryptorchidism

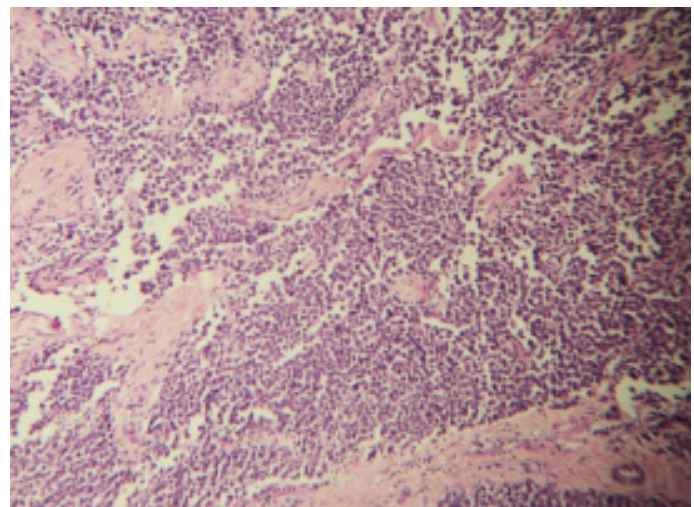


Figure 4: Photomicrograph of Seminoma

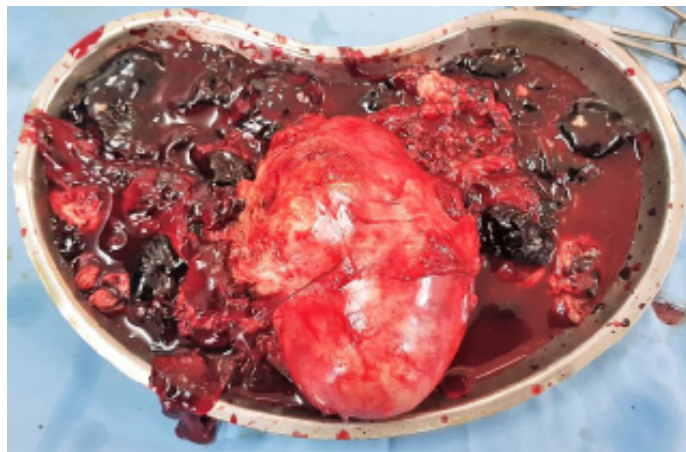


Figure 1: Intra-abdominal ruptured testicular seminoma with hemorrhage.

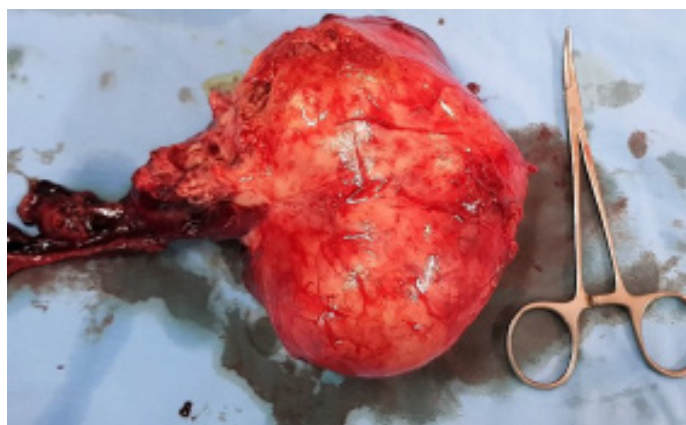


Figure 2: Testicular seminoma with ruptured pedicle

Discussion

Testes develop in the retroperitoneum below the kidney, from where they descend to the scrotum. This descent up to the scrotum takes 7 to 9 months of gestation. But the final descent is completed by birth. The condition is common on the right side and is bilateral in 20% of cases. One of every 500 men has an undescended testis that may be associated with complications such as cancer, ischemia, and infertility [4]. Cancer risk of undescended testis is 5 to 10 times higher than normal. Again an intraabdominal testis has 5 times more chance to develop malignancy than other undescended testis.⁵The commonest cancer in undescended testis is seminoma. Non seminomatous germ cell tumor is more likely pathology where orchidopexy was done previously [6]. That is why it is said that orchidopexy does not reduce the chance of malignancy. But if it is placed in the scrotum, any increase in size can be detected by the patient or clinician. Moreover imaging and exploration is easy.

Intra-abdominal testes is often difficult to be located in childhood by CT scan or MRI. Many times even surgical exploration fails to locate the testis in the abdomen. There are reported cases that intra-abdominal testicular cancer developed in a patient with previously negative surgical exploration [7,8]. As a result development of testicular tumor in an intra-abdominal testis sometimes may not be prevented.

Reason of malignant transformation of undescended testis remains unclear. Two hypotheses have been proposed to explain this association. The first one says that local temperature elevation of an undescended testis is, somehow, pro-carcinogenic. If this hypothesis is true, then orchidopexy should protect against cancer if the procedure is done in infancy or early childhood. The second hypothesis says that an underlying hormonal condition predisposes to both cryptorchidism and testicular cancer [9]. High intra abdominal temperature definitely contributes to malignant transformation. That is why risk of malignancy increases with higher the location of testis. Usually malignant transformation peaks in the 3rd to 4th decades of life. Intra-abdominal testicular tumor usually present as an abdominal mass. Other presentation may be one of the complication like torsion, rupture and bleeding. Intraabdominal testicular tumor may also manifest with local metastasis with adjacent organ. It may present with hematuria if it involves urinary bladder. In our case it was found to have caused subacute intestinal obstruction due involvement of the caecum. Radiological and pre-operative diagnosis of complications such as torsion or rupture is often difficult. Usually, the history of cryptorchidism is not provided and imaging findings can be non-specific. In a male patient with undescended testis, and presence of a retroperitoneal mass on imaging, testicular malignancy should be suspected. A definitive diagnosis and treatment usually involves operative exploration and resection of the mass. If there is a probability of a testicular tumor, the tumor markers might bring further evidence and also will be of use for post-operative management and follow-up. In conclusion, physical examination of the external genitalia should not be overlooked in male patients presenting with acute abdomen, as it could be a pointer to the diagnosis [10].

According to American Joint Cancer Commission (AJCC) risk classification our patient falls under good risk, stage-I seminoma which has 85% chance of 5 year survival. Post-operative chemoradiotherapy was not needed; only he was put on active surveillance. He was seen after 6 months and 1 year after surgery with no sign of recurrence.

Conclusion

In conclusion, the abdominal variant of crypt orchid testis is rare and carries a high risk of malignant transformation to seminoma. Very rarely they can affect the nearby viscera, get torsion or rupture and present as acute abdomen. An undescended testis must be brought down into its normal scrotal position within school going age. If it remains undetected upto adult age such malignant transformation and rupture can happen.

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