



Synchronous Bilateral Intra-Abdominal Seminoma Presented as Acute Abdomen

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Abstract

Cryptorchidism is associated with a higher risk for development of testicular germ cell tumor. Such cancerous undescended testis is vulnerable for complications like torsion.

A 21 year old male presented with acute abdomen, on exploration he was found to have bilateral intra-abdominal testes, the right testis was gangrenous and right orchiectomy was done immediately. The left one was enlarged to a lesser extent and biopsy done. The histopathology confirmed the presence of seminoma in both testes. Left radical orchiectomy done later followed by radiotherapy. The patient was followed for 2 years. We report this quite rare case and review the related articles.

Keywords: Seminoma; Cryptorchidism; Torsion; Acute abdomen; Testicular cancer

Introduction

Undescended Testis (UDT) is a very common anomaly of the male genitalia, affecting 2% to 4% of male infants [1]. Cryptorchidism associated with higher risk for testicular cancer, infertility, torsion and trauma. Very limited number of articles reported acute presentation due to torsion of Intra-Abdominal Testicular Tumors (IATT) [2]. Only few cases of bilateral IATT were reported [3]. We reported an extremely rare case of bilateral intra-abdominal seminoma presented as acute abdomen due to unilateral torsion and gangrene of huge seminoma.

Case Presentation

A 21 year old male known to have bilateral undescended testes since childhood, the family refused any intervention earlier in life. He presented to our emergency department with 12 h history of lower abdominal pain associated with nausea and vomiting. The patient was anxious, afebrile with tachycardia and normal blood pressure. There was generalized tenderness and guarding all over the abdomen especially at the lower abdomen, no palpable mass detected.

The patient was admitted as a case of acute abdomen, urinalysis was normal, blood test showed leukocytosis. Abdominal ultrasound showed mixed echogenic mass at the lower abdomen. Explorative laparotomy was done via lower midline incision. A huge gangrenous mass bulged from the wound; it was oval in shape measuring 12 cm × 6 cm × 4 cm and attached to a pedicle which is the twisted spermatic cord (Figure 1). Diagnosis of torsed gangrenous right intra-abdominal testicular tumor was made; exploration for the left testis revealed mildly enlarged testis located at a peri vesical site. Right orchiectomy and biopsy from the remaining solitary left testis was done. Postoperatively the patient had uneventful course.

Histopathological examination of the gangrenous right testis confirms the presence of seminoma with necrotic areas. The left testicular biopsy showed typical seminoma with preservation of the tunica albuginea and epididymis. Tumor markers: alpha fetoprotein and β-human chorionic gonadotropins were normal, lactate dehydrogenase was elevated. CT-scan of the abdomen and pelvis with contrast revealed enlarged inter aorto-caval lymph nodes (Figure 2). Chest X-ray was normal. Seminal fluid analysis showed Azoospermia.

After healing of the wound, the patient was referred to the radiotherapist and external beam radiotherapy was given to the Para aortic lymph nodes. The patient had follow up for two years.

Discussion

About 10% of all cases of Testicular Germ Cell Tumors (TGCT) occur in men with a history of cryptorchidism [4]. In a review of 112 case of GCT from a single center, 14 cases (12.5%) detected

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Figure 1: Showing the operative findings of large gangrenous right testis and the left testis.

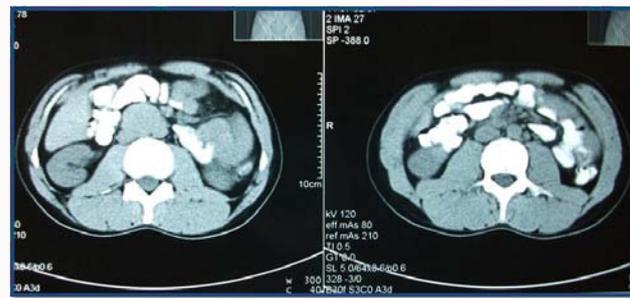


Figure 2: CT Scan showing enlarged Para-aortic lymph nodes.

in crypt orchid testes [5].

In a recent meta-analysis of 21 case-control studies of germ cell tumors, the overall relative risk for development of germ cell tumor in cryptorchidism was 4.8 (4.0 to 5.7) [6]. In a more recent review, the relative risk was 2.75 to 8. A relative risk of 2 to 3 has been noted in patients who undergo Orchiopexy by ages 10 to 12 years. Patients who undergo Orchiopexy after age 12 years or no Orchiopexy are 2 to 6 times as likely to have testicular cancer as those who undergo early prepubertal Orchiopexy [7].

Clinically, Intra-Abdominal Testicular Tumor (IATT) usually presented as silent abdominal mass or nonspecific symptoms which are related to mass effect like dragging abdominal pain, abdominal distension or irrigative voiding symptoms [8]. Less commonly as acute abdomen which may be due to tumor torsion [9] or massive hemorrhage [10]? Rarely, the patient may present initially with metastatic symptoms [11]. Interestingly, a case of Intra-Abdominal

Testicular Seminoma has been described in a Woman with Testicular Feminization Syndrome [12].

One big review of the cases reports involving IATT torsion presented as acute abdomen was done by Hutchison et al. [13]. Torsion of IATT affects various age groups from infants to elderly and it is slightly more common on the right side (approximately 56%) [13]. The commonest histopathological subtype is seminoma while non-seminomas are more common following correction by Orchiopexy [7]. On rare occasions, other types of tumors are encountered like leydig cell tumor in adults or teratoma in children. We will review the published cases of IATT which presented as acute abdomen for the last two decades (1995 to 2015) (14-24) (Table 1).

16 case reports were reviewed, the mean age was 34.3 years (3 months-70 years), about 2/3 of patients (10/16) were between 20 to 40 years of age. Right side was affected more (9/16). The mean duration of symptoms ranged between one day and one week. Abdominal pain was the most common presentation; other modes of presentation

Table 1: Acute abdomen due to complicated intra-abdominal testicular tumors.

year	Author	Age (years)	Presentation	Diagnosis	Management	Further treatment	Follow-up
1997	Andreassen [Denmark] [14]	38	left iliac fossa pain	Torsion of Seminoma	left open orchiectomy	N/A	N/A
1998	Russo [USA] [15]	53	Left sided abdominal pain	Seminoma	Laparoscopic	N/A	N/A
1998	Feldbaum [USA] [16]	46	Abdominal pain and fever	Hemorrhage from Embryonal carcinoma	Left open Orchiectomy	Chemo-therapy	N/A
1999	Miller [USA] [11]	46	Right lower Abdom. pain	Ttorsion of Seminoma	Right open orchiectomy	N/A	N/A
2001	Uemura M [Japan] [17]	37	left inguinal pain	Ttorsion of Seminoma	left open orchiectomy	N/A	N/A
2002	Favorito L. [Brazil] [18]	22	Flank pain +Hematuria	Seminoma	Right open orchiectomy	Chemo- therapy	6 months
2002	Küçük [Turkey] [10]	38	Lower abdom. pain + constipation	Hemorrhage from ruptured Seminoma	Right open orchiectomy	N/A	N/A
2003	Memon [Pakistan] [19]	25	Acute abdomen	Torsion of Seminoma	Left Open orchiectomy	Radio-therapy	9 months
2007	Gonzalez et al. [20] [Switzerland]	70	Left lower Abdominal pain+ mass	Hemorrhage from Leydig cell tumor	Left radical orchiectomy	N/A	N/A
2009	Mohapatra [India] [2]	29	Right lower Abdom. pain	Torsion of seminoma	Right open orchiectomy	N/A	N/A
2011	Van Rijn R. [Netherlands] [21]	3 months	Fever + abdominal pain	Torsion of Teratoma	Right open orchiectomy	N/A	N/A
2012	Staniuk [Poland] [9]	22	Right hypogastric pain	Torsion of Seminoma	Right open orchiectomy	N/A	N/A
2012	Kumar [India] [22]	25	Left lower abdominal pain	Rupture of Mixed germ cell tumor (predominantly a yolk sac tumor and embryonal carcinoma)	Left open Orchiectomy	Adjuvant Chemoth-erapy	N/A
2013	Singh [India] [23]	28	Abdominal pain	Ruptured Seminoma	Right open orchiectomy	N/A	N/A
2013	Our patient [Iraq]	21	Acute abdomen	Torsion of Seminoma	Right Open orchiectomy	Radio-therapy	2 years
2015	Thirunavukkarasu [India] [24]	49	Acute abdomen	Rupture of Seminoma	Right open Orchiectomy	Chemo. Was advised	N/A

include fever, nausea and vomiting, constipation, hematuria and shock.

Only two cases had palpable abdominal mass. Pre-operative diagnosis was done preoperatively only in four cases. Two of the patients had learning difficulties which make the diagnosis even more challenging.

Most of the patients had radiological investigations in the form of Ultrasound and/or CT scan of abdomen. Three patients were taken immediately to the theater as they presented with shock and/or acute abdomen. Radiological imaging was not conclusive in most of the patients and clinical suspicion which based on appropriate history and meticulous examination is the main pearl of diagnosis. The most frequent initial diagnosis was acute abdomen (6/12), appendicitis (3/12) and intra-abdominal bleeding (3/12).

Explorative laparotomy was the main surgical approach (11/16), planned orchiectomy in 4/16 and laparoscopic orchiectomy in single patient. All the patients had uneventful recovery. The main intraoperative finding was torsion of intra-abdominal tumor in 8/16, three cases of intra-abdominal bleeding from the tumor, three case of spontaneously ruptured seminoma and two due to pressure effect of the tumor mass. Histology was Seminoma in (12/16) 75% and one case for each of the following: Mixed germ cell tumor, embryonal carcinoma, Teratoma and Leydig cell tumor.

Gerster published what thought to be the first case of Intra-Abdominal Testicular Tumor (IATT) torsion in 1898 [25]. Torsion of benign intra-abdominal testis may occur; however, it is quite rare [26].

EAU pediatric urology 2016 and AUA guideline 2014 suggested Orchiectomy for post pubertal UDT Because of the risk of later malignancy [27].

Conclusion

Acute abdomen due to complicated IATT is rare and represents a diagnostic and therapeutic challenge. The clinical suspicion is the main stay of diagnosis. Close follow up may be needed in post-pubertal males with history of Cryptorchidism (with or without previous exploration) who declined Orchiectomy.

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