Title

Emergency Laparoscopic orchiectomy for torsion of intra-abdominal testicular torsion: a case report

Running title: **Laparoscopic orchiectomy in intraabdominal testicular torsion**

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Abstract

Torsion of the intra abdominal testis is a rare condition. The Patient is 18 years old male, who came with history of Undescended testis (UDT) and complaint of acute abdominal pain. Emergency laparoscopy for diagnosis and orchiectomy was done for him.

Introduction

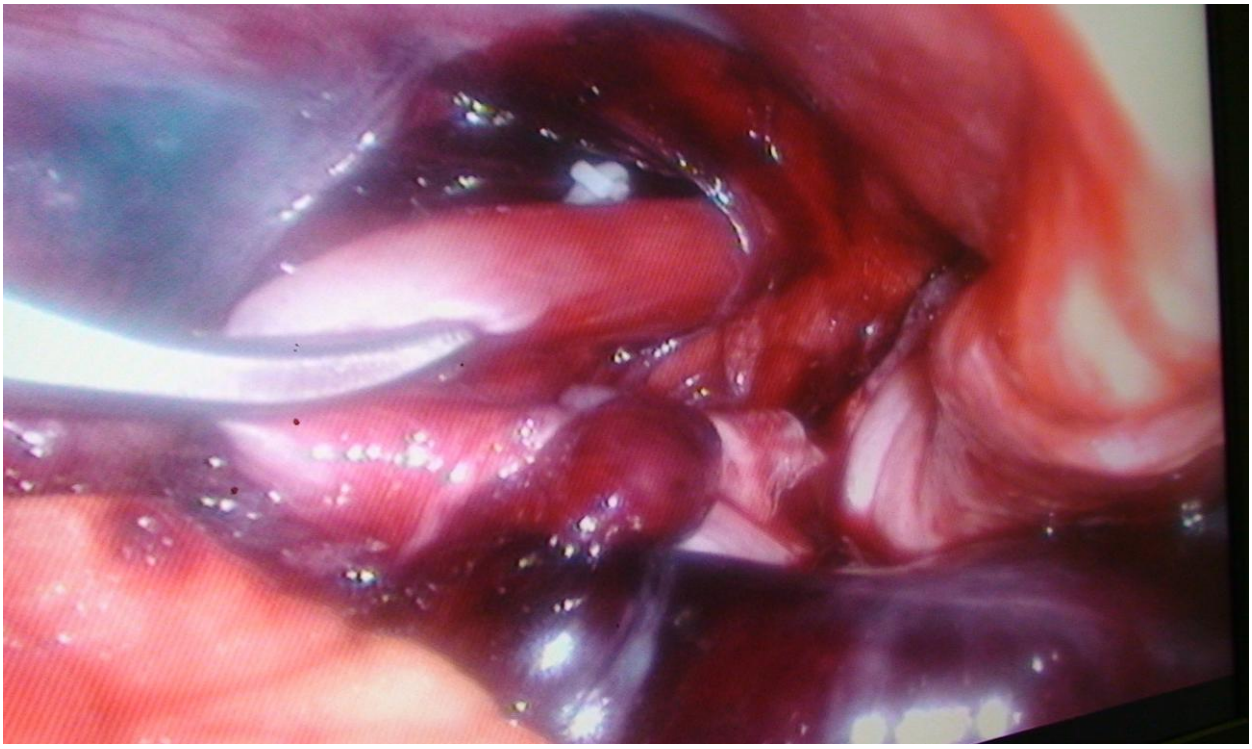
Undescended testis (UDT) occurs in 1% to 4% of full term neonates and is seen in 1% to 45% of preterm neonates.[1] Despite of increased susceptibility of torsion in undescended testes, this is a rare condition and diagnosis of this emergency needed a highly clinical suspicion. Ultrasound and other imaging modalities are not absolutely reliable for evaluation of torsion in undescended testes.[2] Laparoscopy is the method of choice for diagnosis and treatment of nonpalpable testes. In this case report we used laparoscopy for diagnosis of torsion in patient with UDT.

Case Report

The patient is 18 years olds male, a known case of left abdominal UDT, who came to emergency service with left lower abdominal pain on January 2012. The pain had started suddenly and seventeen hours before arrival to hospital. The pain was sustain, localized in left lower quadrant of abdomen, without radiation to another areas. The patient had nausea and vomiting. There was not any change in color of abdominal skin and no visible abscess in the painful point. He had not history of rectal bleeding. Vital signs were normal and fever was not detected. In deep palpation, there was moderate tenderness in the left lower quadrant of abdomen but rebound was not detected. Digital rectal examination was normal and there was no finding of gasterointestinal bleeding. Cell blood count revealed no leukocytosis and there were not pyuria and microscopic hematuria in urine analysis. Plane and upward abdominal X-ray didn't show any positive finding for gasterointestinal problems. Ultrasound evaluation of abdomen revealed an intra-abdominal testis in the left side, near to site of internal inguinal ring. Arterial

blood flow was not seen in this structure, suggestive of torsion in the intra-abdominal testis. After primary preparation, the patient underwent laparoscopy and intra abdominal testis, posterior to internal inguinal ring was appeared, with gangrenous feature. Laparoscopic orchiectomy was conducted for him. Figure1, 2

Figure-1:Gangranous feature of intraabdominal testis



Figur-2 The intraabdominal testis and spermatic chord

Discussion

There is a greater risk for testicular malignancy and infertility for undescended testis.[1 3] Intra-abdominal testes are more susceptible for malignancy than inguinal UDTs [4].Torsion occurs more common in UDTs which mentioned even 13 times than normal testes in some studies.[5-6] .Malignancy is common in UDTs involved by tortion.[7]

Torsion of UDT was described by Delasiauve in 1840 , Curling 1857 and Ormond 1923.[8] A case of torsion of UTD was reported by Beller and he collected 10 another similar cases from literatures. Until 2000 about 60 cases of intra-abdominal torsion was reported and Zilberman reported 11 cases of torsion of UDT in 2006.

Undescended testes are susceptible to torsion may be by mechanism of abnormal contractions of Cremaster and greater relative broadness of testis than it's mesentery [9-11] but the mechanism of torsion is not clearly defined.

Diagnosis of torsion in normal testes is based on clinical findings such as patient history and physical examination. Using of imaging modalities may help us to make diagnosis but these modalities may not helpful for intra-abdominal testis. In a study computed tomography (CT scan) was aimed for diagnosis of torsion in intra-abdominal tests. And ultrasound was frequently used for these situations but results were not reliable. Therefore, clinical suspicion and physical findings necessitate surgical operation. When a patient came with abdominal pain with history of UDT, we should make attention to probability of torsion and surgical exploration should be considered, despite of imaging findings. Laparoscopy is the golden standard method for diagnosis and treatment of intra-abdominal testis. It is wisely to use laparoscopy for diagnosis of torsion in emergency situation. According to this idea we used laparoscopy for such purpose in this case .As we know, there are two report of using laparoscopy for this purpose, right now.[12-13] However, before using laparoscopy, we should role out other surgical cause of abdominal pain and acute peritonitis. With the aim of laparoscopy we can get a direct surgical view and better vision of intra-abdominal pathology, and additionally, if the testis was viable, therapeutic management is possible with laparoscopic orchiopexy. Prophylactic orchiopexy of testis in contralateral side is controversial and recommended in some articles.

Unfortunately, the majority of cases of torsion in intra-abdominal testis were diagnosed after golden time and these patients underwent orchiectomy because of nonviable testis. Learning of hot signs of torsion to UDT patients, their parents and physicians will help early diagnosis and saving the at risk testicle.

1. Hack WW, Sijstermans K, van der Voort-Doedens LM, Meijer RW, Heij HA, Delemarre-van de Waal HA, et al. [Undescended testis: current views and advice for treatment]. *Ned Tijdschr Geneeskd* 2008;152(5):246-52.
2. Moslemi MK, Abedinzadeh M, Al-Mousawi S. Torsion of Testis in an Infant with Unilateral UDT. *Case Report Med* 2010;2010:438530.
3. Schneck, F. X. and Bellinger, M. F.: Abnormalities of the testis and scrotum and their surgical management. In: Campbell's Urology, 8th ed. Edited by P. C. Walsh, A. B. Retik, E. D. Vaughan, Jr. and A. J. Wein. Philadelphia: W. B. Saunders Co., chapt. 67, pp. 2353–2394, 2002.

4. Jones JW Jr, Scott WW. Hermaphroditism, genital anomalies and related endocrine disorders (2nd ed). Baltimore: Williams and Wilkins, 1971.
5. Ein SH. Torsion of an undescended intraabdominal benign testicular teratoma. *J Pediatr Surg* 1987;22(9):799-801.
6. Johnson, J. H.: The undescended testis. Arch Dis Child, 40: 113, 1965.
7. Riegler HC. Torsion of intra-abdominal testis. Surg Clin North Am 1985;65:1303–1329.
8. Ormond JK. Torsion of an Intra-Abdominal Testis. *Ann Surg* 1927;85(2):280-3.
9. Johnson, J. H.: Abnormalities of the scrotum and the testes. In: Paediatric Urology, 2nd ed. Edited by D. I. Williams. London: Butterworth Scientific, chapt. 37, pp. 451–465, 1982.
10. Riegler HC. Torsion of intra-abdominal testis: an unusual problem in diagnosis of the acute surgical abdomen. *Surg Clin North Am* 1972;52(2):371-4.
11. Candocia FJ, Sack-Solomon K. An infant with testicular torsion in the inguinal canal. *Pediatr Radiol* 2003;33(10):722-4.
12. Lee KF, Tang YC, Leong HT. Emergency laparoscopic orchidectomy for torsion of intra-abdominal testis: a case report. *J R Coll Surg Edinb* 2001;46(2):110-2.
13. Porpiglia F, Destefanis P, Fiori C, Tarabuzzi R, Fontana D. Laparoscopic diagnosis and management of acute intra-abdominal testicular torsion. *J Urol* 2001;166(2):600-1.