

REPORT

TORSED INTRAABDOMINAL TESTIS: A RARELY CONSIDERED DIAGNOSIS

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ABSTRACT

Cryptorchidism, or maldescended testis, is a common problem encountered in pediatric age groups. Despite more than 100 years of research, many aspects of cryptorchidism are not well defined and remain controversial. However, cryptorchidism clearly has deleterious effects on the testis over time.¹⁻⁴

Among the problems associated with an undescended testis are an increased risk for testicular tumor development and a propensity for torsion. In cases of bilateral undescended testis, infertility is a concern.¹⁻⁴

Torsed intraabdominal testis is rarely considered in the differential of acute appendicitis, probably because of a failure to examine the external genitalia as part of the abdominal examination. Most patients with an undescended testis, especially adults, are aware of the absence of the testis within the scrotal sac. The purpose of this report is to highlight a case of torsed abdominal testis which presented with features of acute appendicitis in a 32 year old man who was unaware of the absence of the right testis within the right hemiscrotum.

CASE PRESENTATION

Mr. R. O. is a 32-year-old man who was referred from a school clinic with complaints of severe pain in the right lower quadrant of the abdomen with associated fever, nausea, vomiting and anorexia. There was no change in bowel habits. He reported recurrent pain in the right lower quadrant of the abdomen for about two years prior to presentation, and this was his fifth episode. Previous attacks were managed with analgesics and antibiotics in a private clinic, and a diagnosis of appendicitis was entertained on each occasion. The index episode was more severe and less responsive to antibiotics and analgesics. Therefore, he was referred for possible surgery.

On examination, the patient was found to be groaning due to severe abdominal pain. His blood pressure was 120/80 mmHg, his pulse was 104 beats/minute, his respiratory Rate was 28 cycles per minute, and his temperature was 37.8°C.

There was marked right iliac fossa tenderness associated with guarding and positive release signs. The Psoas, Rovsings and Obturator signs were all positive. Percussion and bowel sounds were normal. Examination of the external genitalia showed a vacant, small-sized right hemiscrotum. The left hemiscrotum and testis were normal. His scrotum lacked a median raphe. Rectal examination revealed tenderness in the region of the right iliac fossa. Full blood count and urinalysis were essentially normal.

A diagnosis of acute appendicitis was made and an emergency appendectomy was performed. Findings at operation revealed a torsed testis in the region of the vermiform appendix with inflammatory reaction involving the testis and the surrounding tissues. The vermiform appendix was grossly normal and uninflamed. See Figures 1 & 2. Orchiectomy and prophylactic appendectomy were performed. The patient had an uneventful postoperative course and was discharged on the seventh day post-operation.

The histology of the testis revealed features of severe testicular atrophy without evidence of malignancy. The histology of the vermiform appendix revealed no signs of inflammation.

DISCUSSION

Several studies have shown that torsion is more common with an undescended testis compared with a completely descended testis.^{6,7} Osime *et al* reported the average age of torsion in their series to be 18.2 years.⁸ At 32 years of age, our patient was well above this mean age. Torsion of the intraabdominal testis has

been reported in a neonate and during childhood, but more cases are reported after puberty.⁹⁻¹¹

An undescended testis may torse in the inguinal canal, where it is readily palpated, making the diagnosis much more obvious. However, when the undescended testis torses intraabdominally, physical examination alone may not be sufficient to make a correct diagnosis.

Radford *et al* reported a case of inguinal undescended testis which presented as acute appendicitis and concluded that an intraabdominal testis can lead to acute life-threatening complications and therefore should be considered in any patient with acute abdominal symptoms who has an "absent" testis.¹² In terms of intraabdominal testis, studies have shown that torsion is more common when there is an associated tumor of the testis.^{13,14} However, several other studies have reported torsion of the testis with a normal histological picture of the testis.^{15,16} Candiaz *et al* have even reported a case of torsioned intraabdominal testis with an atrophic "testis."¹⁷

Because torsion of the intraabdominal testis is more common on the right,¹⁶ confusion with the diagnosis of acute appendicitis may arise. Making a correct diagnosis of torted intraabdominal testis requires a high index of suspicion and a thorough physical examination of the abdomen and genitalia; when an empty scrotum is found, a higher clinical suspicion must arise.

Several studies have highlighted methods to accurately predict the diagnosis of acute appendicitis, one of which is the Alvarado (MANTRELS) scoring system.¹⁸ Using this scoring system, our patient had a score of 8 (anorexia, nausea & vomiting, right iliac fossa tenderness, elevated temperature and a leukocytosis) indicating a high likelihood of acute appendicitis. The finding of an apparently normal appendix led to a search for other possible causes of acute abdomen, and the torted testis was found. In centers where high-resolution ultrasound scan, computerized axial tomography scan and magnetic resonance imaging are available, such studies should be performed before surgery.

In terms of management of the torted abdominal testis, several authors recommend orchiectomy because most such torted testes have lost their viability.^{19, 20} In addition, there is an increased risk of malignancy and formation of antibodies against the contralateral normal testis.

While most mention the torted testis located in the scrotum, with the pain referred to the right iliac fossa, most standard textbooks do not include torted intraabdominal testis in the differential of acute appendicitis. We have discussed our experience with a 32-year-old man who had torted intraabdominal testis but was managed as a case of acute appendicitis for about two years.

In conclusion, clinicians should be aware that an intraabdominal testis can mimic acute appendicitis. Genital examination should be routinely included in abdominal examination for suspected appendicitis; when the right hemiscrotum is found not to contain a testis, there should be a high index of suspicion for a torted testis. Finally, when a grossly normal vermiform appendix is found at operation in a patient who was thought to have acute appendicitis, every effort should be made to search for other possible causes of that tenderness.

REFERENCES

1. Tanyen FC. The descent of testis and reason for fade descent. *Turk J Pediatr* 2004; 46: 4 – 17.
2. Hadziselimovic F. Pathogenesis of cryptorchidism In: Kogan SJ, Hafez ES, eds. Pediatric andrology. Boston: Nijhoff, 1981: 147
3. Berkowitz GS, Lapinski RH, Dolgin SE, Gazella JG, Bodian CA, Holzman IR. Prevalence and natural history of cryptorchidism. *Pediatrics* 1993, 92: 44-9.
4. Docimo SG. Testicular descent and ascent in the first year of life. *Urology* 1996; 43: 458-60.
5. Lootsma E, Vander Pol JJ. Ante abdomen caused by torsion of an undescended testis. *Ned Tijdschr Geneeskde* 1987; 131: 1490-2.
6. Schultz KE, Walker J. Testicular torsion in undescended testes. *Ann Emerg Med* 1984; 13: 567-9.
7. Riegler HC. Torsion of intraabdominal testis: an unusual problem in the diagnosis of the acute surgical abdomen. *Surg Clin North Am* 1972; 52: 371-4.
8. Osime U, Onuora V. Torsion of the testis in adolescent and adult Africans. *Indian J Surg* 1985, 47; 396-400.
9. Kolon TF, Patel RP, Huff DS. Cryptorchidism: diagnosis, treatment and long-term prognosis. *Urol Clin North Am* 2004; 31: 469-80.
10. Dicimo SG, Silver RL, Cromie W. The undescended testicle: diagnosis and management. *Am Fam Physician* 2000; 62: 2037-44.
11. Rabii R, Rais H, Hafiani M, Dassoului BE, Elmnini M, Benjelloun S. Torsion of an undescended testis. Apropos of a case. *Ann urol (pans)* 1998; 32: 49-51.

12. Redman JF. Impalpable testes: observation based on 208 consecutive operations for undescended testes. *J Urol* 1980; 124: 379-81.
13. Radford PJ, Greatorex PA. Torsion of a malignant undescended testis mimicking appendicitis. *Br J Clin Pract* 1992; 46: 209-13.
14. Ein SH. Torsion of an undescended into abdominal benign testicular teratoma. *J Pediatr Surg* 1987; 22: 798-801.
15. Toft P, Nikolajsen IL. Torsion of intraabdominal non-malignant testis: A case report. *Acta Chir Scand* 1986; 152: 77-8.
16. Smolko MJ, Kaplan GW, Brock WA. Location and fate of the nonpalpable testis in children. *J Urol* 1983; 129: 1204-6.
17. Candiaz FJ, Sack-Solomon K. An infant with testicular torsion in the inguinal canal. *Pediatr Radiol* 2003; 33: 722-4.
18. Saidi HS, Chada SK. Use of modified Alvarado score in the diagnosis of acute appendicitis. *East Afr Med J* 2003; 80: 411 - 4.
19. Peters CA, Kavoussi LR. Pediatric endourology and laparoscopy. In: Walsh PC, Retik AB, Stamey TA, *et al*, eds. *Campbell's Urology* Philadelphia Saunders, 1993:1.
20. Hrebinko RL, Bellinger MF. The limited role of imaging techniques in managing children with undescended testes. *J Urol* 1993; 150: 458-60.
21. Docino SG. The results of surgical therapy for cryptorchidism: a literature review and analysis. *J Urol* 1995; 154: 1148-52.
22. Martin DC. Malignancy in the cryptorchid testis. *Urol Clin North Am* 1982; 9: 371-6.