The torsed intraabdominal testis presenting with a mechanical large intestinal obstruction – A maiden case report

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ABSTRACT

Torsion of an intraabdominal testis is a well-known complication and is usually associated with a testicular malignancy. Torsed intraabdominal testis compressing the large bowel leading to a mechanical gut obstruction is still an unreported entity. A 27 years old young patient presenting with nonspecific abdominal pain after 48 hours of delay. Due to features of gut obstruction, an emergency laparotomy was done. A large torsed intraabdominal testis was found with an empty right scrotum which was compressing the sigmoid colon leading to a complete gut obstruction. Interestingly, two of his siblings also were also suffering from undescended testicles.

Keywords: torsed intraabdominal testis, mechanical large intestinal obstruction, case report

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Introduction
Torsion of an intraabdominal testis (IAT) is an uncommon entity first reported by Gerster. Only 67 cases have been reported so far since 1898. In contrast to an inguinal testis, a torsed IAT have been predominantly reported after puberty. These cases are frequently diagnosed as an intraoperative surprise due to a nonspecific clinical presentation and frequently missed scrotal examination.

Large bowel Obstruction (LBO) is an emergency condition which may lead to a perforation peritonitis or a bowel ischaemia if not addressed well in time. Although colonic malignancies remain the commonest cause (>60%) of colonic obstruction but causes like diverticulitis, volvulus, adhesions, intussusception, hernia and other masses also do play the role in some cases. We are reporting a unique case of a mechanical LBO due to a torsed IAT in a 26 years old male. Although the first case of a small bowel obstruction due to IAT has also been reported recently by Bassiouny et al and kim et al in a child and adult respectively, but a case of LBO due a torsed IAT is still unreported, to the best of our knowledge. Moreover, a history of UDT in his two siblings also further makes it a unique and worth case to get reported.

Case report
A 26 years male presented to our emergency with abdominal pain for last 48 hours. At the time of onset, pain was mild in intensity and was localised to right lower abdomen but gradually it involved the whole abdomen along with increasing intensity. Pain was also associated with nausea and bilious vomiting. He also reported non passage of stools for the last two days along with no passage of flatus for last 24 hours. He also reported an increasing abdominal distension. His pulse rate was 94/min. All other vitals were normal. On examination, his abdomen was distended. A linear scar mark was present in right inguinal region due to previous surgery for right inguinal hernia about a decade ago. Tenderness could be elicited in his right lower abdomen without any evidence of rebound tenderness and rigidity. His total leucocyte count was 12600/cmm along with a neutrophil count of 80.6 %. The other blood investigations were in normal range. Ultrasonography revealed dilated gut loops with minimal peristaltic activity. Mild free fluid was also reported in the peritoneal cavity. His abdominal x ray reflected multiple air fluid levels suggestive of an intestinal obstruction. (fig 1) In view of a high suspicion of ruptured appendix, his Exploratory laparotomy was done by a midline approach. Intraoperatively, whole of small intestine and colon proximal to sigmoid colon were dilated due to compression of the later by a gangrenous right intraabdominal testis of size about 10x8x6 cm. (fig 2) Surprized by the intraoperative findings, his scrotal examination was done intraoperatively confirming an empty and poorly formed right scrotum. His right torsed IAT was removed and sent for histopathology confirming its gangrene. Abdomen was closed after gut decompression and patient had an uneventful postoperative recovery. Although patient was well informed about his right undescended testis by his surgeon during his previous surgery of right inguinal hernia about a decade ago, but still he felt it irrelevant to reveal it to us preoperatively. Interestingly, elder brother of the patient also had a unilateral UDT along with a bilateral UDT in his younger brother.

Discussion
Although IAT accounts for 55 % cases of nonpalpable testicles, but it constitutes only 5 % cases of operated torsed testis. Hence, a large no. of uncomplicated IAT cases are still remaining undiagnosed. Torsion and malignancy are the two commonly reported complications of an IAT. Risk of torsion in UDT is reported to be 10 times higher compared with a normal descended testis. Johnson also reported torsion in 21% cases of UDT in his study of an inguinal cryptorchidism but cases of torsed IAT are only available as case reports. So, an exact risk of torsion in an IAT couldn't be...
Fig 1 A abdominal x ray depicting the gut obstruction

Fig 2 The torsed right intraabdominal testis compressing the sigmoid colon
evaluated. Duncan et al in his study of 39 cases of intraabdominal testicular torsion reported an associated testicular malignancy in about 60% cases. Although cases of an classical inguinal testicular torsions are commonly reported in early life but cases of IAT torsions are amazingly been reported more frequently after puberty, like the present case. It may be due to a poor accessibility and a nonspecific clinical presentation frequently confusing it with the other frequently encountered entities like appendicitis at young age. Although a large no. of adult patients like ours with UDT are also aware of it, but still majority of the cases with a torsed intraabdominal testis are being diagnosed only after laparotomy. It may be due to a quick history taking by the emergency doctor as well as lack of an awareness about the importance of revealing a good history among patients particularly belonging to a lower socioeconomic stratum. A missed scrotal examination before the abdominal exploration by the surgeon further escalates the quandary as what happened in the present case also. A vague clinical presentation along with long list of differentials further compounds the diagnosis. The Torsion of an undescended testis (UDT) is an uncommon entity in adult life which is frequently misdiagnosed in about 20% cases due to mimicking of its presentation with other common diseases like appendicitis, lymphadenitis and an obstructed hernia. Further, a relatively deeper placed intraabdominal testis is obviously difficult to palpate too unlike an inguinal testis. A torsion of intraabdominal testis is more common on the right side as in present case also, making it a strong differential of appendicitis. Although about 60% cases of torsed IAT are associated with a tumour of the testicle but many other studies have reported a normal histopathology in a torsed IAT. Duration of torsion is a critical factor affecting the outcome directly. Geng et al in 2013 reviewed 35 cases of testicular torsion and reported an average reporting time of 48 hours. Naouar et al in 2015 also reported 13 cases of testicular torsion where 9 cases reported between 6-48 hours, reflecting a delayed presentation. In present report also, the patient reported after 48 hours of symptoms. It might be due to nonspecific symptoms, lack of awareness and a poor availability of health services particularly in rural regions of developing nations.

No data about salvage rates of testicular torsion in IAT is available but it is obviously anticipated to be poorer than overall testicular torsion salvage rates of 20-92%. Studies by Zilberman et al, Pogorelic et al and Naouar et al also have reported testicular salvage rates of 10%, 37% and 30.7% respectively in their studies. LBO is an acute emergency situation demanding a swift response to avoid fatal complications like gut gangrene and perforation. The clinical presentation includes abdominal pain, distension, constipation and vomiting. Although malignancy of colon, adhesions, volvulus, intussusception and hernia are the most common causes of a mechanical LBO but rarely, a testicular mass may also lead to it. Recently, two cases of small bowel obstruction due to an uncomplicated IAT have been reported for the first time in adult and child respectively. A mechanical LBO due to a torsed IAT is a unique and still unreported entity, to the best of our knowledge. A plain abdominal x ray can suggest about LBO but it's a very poor tool to diagnose a torsed IAT. Although ultrasonography is a good investigation to diagnose an inguinal testis but less reliable for intraabdominal testis. A decreased or absent testicular blood flow decreased (oedema) or increased echogenicity (infarction) may help in its diagnoses. In present case also, USG was performed but it failed to detect the intraabdominal testis. An associated large bowel obstruction may further decrease its efficacy like the present case. Computed tomography can detect an isodense or heterodense, well circumscribed torsed testicular mass with detailed anatomy in almost all the cases making it a valuable choice. It not only tells the details of IAT, but also a very
good tool to diagnose an associated gut complication. Technetium Tc-99m scrotal scintigraphy may image a torsed testicle as cold spot. Magnetic resonance imaging is another useful tool to localise and diagnose a torsed testis. All these diagnostic modalities should be used intelligently in cases with a low clinical suspicion, but one should not waste the ‘golden hours’ for salvaging an already ischaemic testis in cases of high clinical suspicion.

Immediate surgical exploration remains the treatment of choice for all torsed testis irrespective of their locations. The dilemma to choose an orchidectomy with contralateral orchiopexy or a bilateral orchiopexy further confuses the surgeons. Cimador et al in their study of 15 cases in 2007, have studied three parameters, helpful in making a decision. A history longer than 10 hours, lack of flow on colour doppler and no bleeding from tunica albuginea after an incision over it suggest a need of orchidectomy. Rouzrokh et al in their study of 70 cases in 2015 have performed orchiopexy in all the cases of testicular torsion with a standard practice of a second look exploration after 48 hours they reported a testicular salvage rates of 63 % in the study.

An orchidectomy is the standard recommendation for a torsed intraabdominal testis by most authors as majority of these testicles have already lost their viability by the time of their exploration. Further, a second look exploration technique might not be easy in a torsed IAT due to technical challenge of bringing it in the scrotum for orchiopexy.

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