

Torsion of cryptorchid testis after primary orchiopexy failure: An overlooked cause of abdominal pain in children

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Introduction

Abdominal pain for more than two weeks is complained of by more than one third of all children¹. However, acute abdominal pain requiring surgical intervention is found in about 1% of all children presenting to the emergency department. It is a diagnostic challenge to timely recognise them, because of the subtle clinical signs. Hence many children suffer the consequences of late diagnosis². Testicular torsion as a cause of acute abdominal pain is well known but torsion of the cryptorchid testes continues to elude the clinicians from making a timely diagnosis³. It may be noted that failure of orchiopexy and subsequent return of the testis from the scrotum to the intra-abdominal position is well documented in the literature⁴. We report the case of young boy with a history of orchiopexy one year back, who presented with intense abdominal pain. It was finally diagnosed that the primary orchiopexy had failed and the testis had reverted to the intra-abdominal position, where it had undergone torsion and eventual gangrene. To the best of our knowledge, this is the first case reporting such a cause of abdominal pain in children.

Case report

A 5 year and 9 month old male child was admitted with a complaint of abdominal pain for the last five days. Pain had increased over the last two days but was not associated with any vomiting, constipation, diarrhoea, dysuria or fever. He had a history of left sided orchiopexy one year back due to testicular torsion.

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General examination and vital parameters were within normal limits. There was diffuse tenderness in the left iliac fossa (LIF). However, no mass was palpable in the LIF. The abdomen was soft, no organomegaly was palpable and intestinal peristaltic sounds were well auscultated.

Initial tests showed normal blood counts, C-reactive protein, electrolytes, hepatic and renal parameters. Serum amylase and lipase, urine routine examination as well as culture and stool examination were non-contributory. Treatment was presumptively started with pantoprazole and drotaverine but pain showed no improvement. An ultrasonogram of the abdomen showed an ill-defined hypoechoic focus (1.4 cm x 2.2 cm) in the LIF. Magnetic resonance imaging (MRI) of the abdomen revealed a round hyperintense lesion (1.3 cm x 1.3 cm) lateral to the sigmoid colon on fat suppressed images. Ill-defined hyperintensities were noted around it extending into the left inguinal canal. The rounded structure on MRI appeared to be an intra-abdominal left testis with oedema around; furthermore, the left scrotal sac showed no testis like structure on MRI (Figure 1).



Figure 1: MRI abdomen showing the left testis in intra-abdominal position

An orchiopexy failure was contemplated and immediate laparotomy was arranged. During surgery, the left testis was found to be in the abdomen lateral to sigmoid colon with torsion. It was in a gangrenous state, which prompted the surgeon to do a left-sided orchiectomy. Postoperative biopsy confirmed the mass to be a necrotic testis with features of ischaemia and no malignant changes. Pain resolved immediately after surgery and child was discharged after five days.

Discussion

The failure rate of primary inguinal orchiopexy has been reported to be from 7.5 to 13%⁴. McIntosh *et al.* reported that the failure rate of primary orchiopexy over an eighteen year-long study was only 1.6% for unilateral orchiopexy and 1.9% for bilateral orchiopexy (two testes operated in two different settings). However, when bilateral orchiopexy was done in same setting, the failure rate increased slightly to 1.9% per testicle⁵. Ziylan *et al.* found that reoperation (secondary orchiopexy) had to be done after a mean duration of 3.2 years after the initial orchiopexy and that the mean age of presentation for secondary operation was 6.8 years. They also reported that the testis (after primary orchiopexy) was displaced to high scrotal position in 46.9%, at the external ring in 25% and within the inguinal canal in 28.1% patients⁴. Our patient was slightly younger (5 years and 9 months of age) with a history of unilateral orchiopexy one year before. His testis was found to be located in the abdomen. Inadequate mobilization of the testis, failure to perform true high ligation of the hernia and unsuccessful fixation of testis into scrotum are some of the important causes⁴. McIntosh *et al.* found that bilateral orchiopexy and older age during surgery were two risk factors for failure of orchiopexy. When the primary operation was done at < 2 years of age, failure was 1.97% whereas at 2 to 6 years of age, it increased to 2.67%. Above 6 years, it was 0-0.8%⁵.

Pogorelic *Z et al.* evaluated eight patients with torsion of testis in the inguinal canal (All were naive cases, unlike our case who had a failed primary orchiopexy). Four children, in whom testis preserving orchiopexy could be performed, had presented to the surgeon with a mean duration of symptoms of 6 hours. The remaining four children, in whom orchiectomy had to be done for gangrene of testis, had a mean duration of presentation of 50 hours⁶. This highlights the paramount importance of early clinical suspicion,

because re-orchiopexy (secondary orchiopexy), though a difficult surgical procedure, nevertheless has the success rate of as high as 81 to 100%¹. Our case had symptoms for 5 days before presentation and quite expectedly, had irreversible gangrene of the testis, needing orchiectomy.

This case report highlights the importance of examining the genitalia during an abdominal examination in male children especially if the child has abdominal pain. The past history of orchiopexy should have made this imperative. If this was done during the initial abdominal examination, the absence of the testis in the scrotum would have been detected and the true diagnosis suspected much earlier.

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