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Case report

Cryptorchidism as an obscure cause of adhesive small bowel obstruction in an adult, a case report

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ABSTRACT

Introduction and importance: Cryptorchidism is seen in 3% of fullterm neonates. Rarely, it may cause small bowel obstruction. Knowledge of this presentation of cryptorchidism is essential to treat bowel obstruction arising due to cryptorchidism before the patient suffers complications.

Case presentation: We present a case of a patient who underwent exploratory laparotomy for small bowel obstruction that did not resolve with conservative management. At laparotomy, on initial exploration, this patient had adhesive bands causing the small bowel obstruction. On further exploration, the bands were found to arise from a cryptorchid testis.

Clinical discussion: Cryptorchidism is a common finding among newborns and needs to be corrected by 1 year of age. Failure to correct cryptorchidism in a timely manner can result in complications such as bowel obstruction.

Conclusion: Thorough intraoperative exploration is key at operation for all cases of small bowel obstruction, so as to find and treat anatomic causes of obstruction. Congenital causes of bowel obstruction should be suspected in all unexplained cases of bowel obstruction and may be revealed by careful physical examination and thorough intraoperative exploration.

1. Introduction

Cryptorchidism is seen in 3% of full-term neonates. Rarely, it may cause small bowel obstruction. Our case illustrates the importance of treating cryptorchidism in a timely manner i.e. before 1 year of age. Failure to correct cryptorchidism in a timely manner results in its presentation with complications such as bowel obstruction. Our case also highlights that thorough intraoperative exploration is key at operation for all cases of small bowel obstruction, so as to find and treat anatomic causes of obstruction. Congenital causes of bowel obstruction should be suspected in all unexplained cases of bowel obstruction and may be revealed by careful physical examination preoperatively as well as by thorough exploration intraoperatively. Reporting has been done on the basis SCARE criteria [1].

2. Case presentation

A 60-year-old male presented with periumbilical pain and nausea. He had opened his bowels on the day of admission. Vital signs were normal and abdominal examination revealed epigastric tenderness and a reducible periumbilical hernia. He had no medical comorbidities or history of previous surgeries and had no significant family, psychosocial, drug or genetic history. There was no history of similar presentations in the past. Laboratory testing revealed leukocytosis of 12.8 and a normal lactic acid level. Contrast-enhanced cross-sectional imaging revealed dilated small bowel with a possible transition point between dilated and compressed bowel loops. He was admitted for observation and bowel rest. The patient was passing flatus during this time. Nevertheless, during the hospital stay, he reported worsening abdominal pain and distension. Nasogastric tube drainage was significant. In view of his worsening symptoms and computed tomography (CT) findings, he underwent exploratory laparotomy. Intraoperatively the small bowel was

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found to be dilated but viable (Figs. 1 and 2). There was a copious amount of clear fluid in the peritoneal cavity. Adhesion bands were seen between the omentum, abdominal wall, and antimesenteric bowel wall. The bands arose from a mass in the left abdomen that appeared gonadal. The bowel appeared to have undergone torsion around the bands. We palpated the scrotum and found that the left testicle was absent and the left hemiscrotum was hypoplastic. The presumed cryptorchid testis was excised, the bands lysed, and the procedure concluded in standard fashion. The procedure was performed by the attending surgeon with assistance from residents. Pathology confirmed the mass to be an atrophic testis.The patient was discharged on postoperative day 4 and had an uneventful recovery (Fig. 3).

3. Discussion

Small bowel obstruction in adults is most commonly seen due to intraperitoneal adhesions, malignancies or hernias, and rarely due to congenital causes.

Cryptorchidism occurs in 3% of full-term and 30% of preterm male neonates. Spontaneous descent occurs by 1 year in 60% of the cases.

12 to 24% of cryptorchid testes are not palpable [2]. 12 to 30% of nonpalpable testes are palpable under anesthesia [3]. The testis is intraabdominal in 6% of cases of nonpalpable testis and is absent in 56% [2]. In 50% of cases of nonpalpable testes, the testis is located in an intraabdominal, inguinal, or ectopic location. Of all nonpalpable testes, 20% are due to agenesis and 30% due to atrophy [4]. The risk of seminoma in cryptorchid testes is 10 to 40 times higher than that of normal testes [2,5]. Cryptorchid testes undergo parenchymal changes if surgical correction is delayed beyond 2 years of age [4]. In addition to this, cryptorchidism can cause acute emergencies such as testicular torsion or bowel obstruction as seen in our case [6,7]. Cryptorchidism is seen in 9.7% of all torsed testes [8].

.Surgical correction is recommended within 6 months to 1 year. Treatment is by orchiopexy within the first year of life. For those patients in whom treatment is delayed until after puberty, orchiectomy is the preferred treatment, especially when unilateral [5]. The risk of malignancy doubles if cryptorchid testes are left uncorrected by 13 years of age. Surgical treatment should be expedient, so as to prevent malignancy [9].

However, for patients older than 50 years of age, no treatment is recommended [5].

.From the discussion, it is clear that upon exploration of the abdomen with no prior knowledge of cryptorchid testis, gonadal excision is essential. Preoperative diagnosis of cryptorchid diagnosis allows us to have a discussion with the patient about excision of the testis, whether or not the testis is the cause of obstruction. In case of intraoperative finding of a cryptorchid testis causing bowel obstruction, the surgeon is justified in excision of the testis without preoperative consent. Our case emphasizes a rare presentation of cryptorchidism, which if missed, can lead to severe complications. A high index of suspicion leads to timely diagnosis and treatment of this rare presentation of a common anomaly before the patient suffers further complications.

Our case highlights the importance of complete physical examination (including genital examination) for patients, particularly those with no obvious etiology for a bowel obstruction. In addition, the true incidence of cryptorchid testes causing recurrent bowel obstruction might not be known, since not all cases of bowel obstruction undergo operative management. In cases where the diagnosis is missed and the patient does

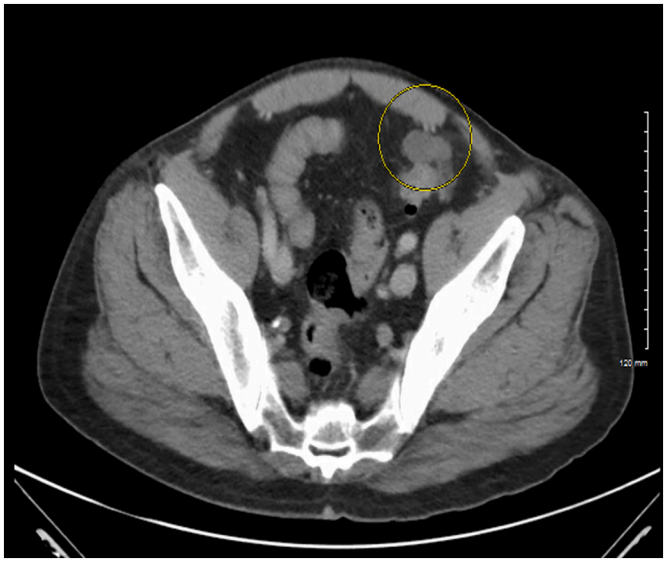

Fig. 1. Axial image on CT scan demonstrating intraabdominal testis.

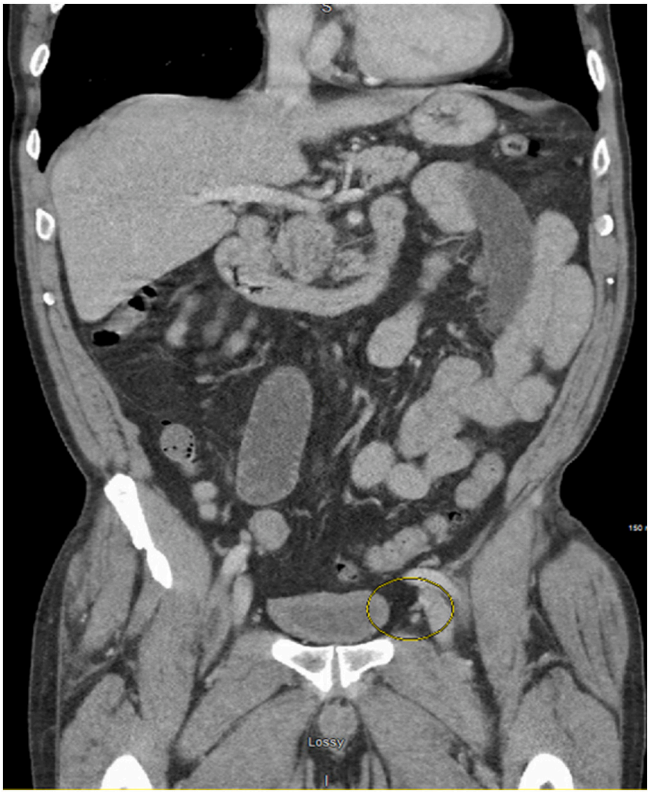

Fig. 2. Coronal image on CT scan demonstrating intraabdominal testis.

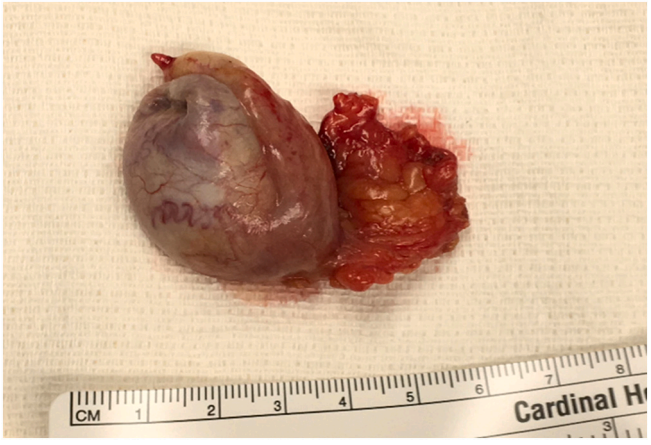

Fig. 3. Intraabdominal testis excised at exploratory laparotomy.

not undergo operative correction, or where the diagnosis is missed at operation, the patient will likely have recurrent episodes of bowel obstruction.

Our case further delineates the importance of thorough intra-operative exploration during exploratory laparotomy, to avoid missing out on rare pathology that was unforeseen preoperatively. Furthermore, a detailed preoperative review of cross-sectional imaging by the treating surgeon may help identify the cryptorchid testis as a potential cause for the bowel obstruction preoperatively, so that the patient can be counselled accordingly and so that adequate exploration and resection can be done intraoperatively.

4. Conclusion

A thorough operative exploration is warranted to delineate the cause of bowel obstruction such that a rare cause, including congenital anomalies, is not missed. Additionally, our case further underscores the importance of detailed intraoperative exploration, to identify a mass or a focus of pathology leading to the formation of adhesions and small bowel obstruction.

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Ethics approval

Exempt as per Easton Hospital Institutional Review Board Committee.

Guarantor

All authors.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Author contribution

Savni Satoskar: data collection, writing the paper
Sarang Kashyap: writing the paper
Avian Chang: writing the paper
Joshua Ziehm: writing the paper
Francisco Benavides: collecting data
Vinay Singhal: concept

Research registration

Not applicable.

Reporting

Reporting has been done on the basis SCARE criteria [1].

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Declaration of competing interest

None.

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