

Large Intestine as a Content of Obstructed Congenital Inguinal Hernia in a Child: A Case Report of Intestinal Obstruction**Saranendu Shekhar Deb¹, Rakesh Chandra Pal²**¹Senior Resident, MS (Masters of Surgery), Department of General Surgery, Agartala Government Medical College & Govind Ballabh Pant Hospital, Agartala, Tripura 799006²Senior Resident, MS (Masters of Surgery), Department of General Surgery, Agartala Government Medical College & Govind Ballabh Pant Hospital, Agartala, Tripura 799006

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Abstract**Introduction and importance:** Hernias containing appendix, caecum and transverse colon are uncommon in contrast with usual inguinal hernias containing small intestine. The patient usually presents with inguinoscrotal swelling.**Case presentation:** We present a case of a 6 months old male child presented with inguinoscrotal swelling, vomiting with abdominal distension. On ultrasonography (USG) of the scrotum, protrusion of the abdominal cavity contents through the right inguinal canal into the scrotum of approximately 3×1 cm × 1 cm was found which indicates right inguinal hernia. On opening the hernial sac during surgical management, the appendix, caecum were found inside the hernial sac. Open herniotomy was performed and the abdomen was closed in layers. Postoperative period of the patient was uneventful.**Discussion:** Congenital inguinal hernia in the child occurs mostly due to persistent processus vaginalis. History and clinical examination reveals the appearance of lump in the inguinal region or scrotum. Preoperative ultrasonography can be used to supplement the physical examination and increases the accuracy of its diagnosis. Although the laparoscopic approach is increasingly used now a days, open hernia repair is preferred in young children.**Conclusion:** Appendix and Caecum are unusual contents of an inguinal hernia. Open herniotomy combined with relieving of the intestinal obstruction is the treatment of choice in young children.**Keywords:** Herniotomy, Inguinoscrotal, Large bowel, Obstruction, Processus vaginalis.

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Introduction

Inguinal hernia is protrusion of peritoneum with or without its contents, through the anterior abdominal wall in the inguinal region. [1] Inguinal hernia are classified into direct and indirect hernia, depending on whether the protrusion is medial or lateral to the inferior epigastric vessels. [2]

The majority of inguinal hernias in children and newborns are indirect and caused by patent processus vaginalis. [2,3] Usually inguinal hernia contains omentum and small intestine. In contrast, our case had an inguinal hernia containing caecum and appendix. [4] Here, we present a case of an obstructed congenital inguinal hernia in a 6 month old boy who presented with inguinoscrotal swelling, vomiting and abdominal distension.

Case presentation

A 6½ months male child presented in our emergency room with a chief complaint of inguinoscrotal swelling for 3 days and vomiting for

2 days with a distended abdomen. The swelling was not prominent during crying. The child had birth weight of 2.4 kg and there were not any complications after the birth.

On examination of vitals, the temperature was 99.5°F, pulse rate was 160 beats per minute, and normal oxygen saturation in the room air. He had mild dehydration at the time of presentation. Then, systemic examination was performed, the abdomen was found to be distended, and bowel sound was diminished. The scrotal sac was swollen, tender and inflamed. Other systems were found to be within normal limit. Emergency management was done before sending for diagnostic tests. Intravenous infusion of ½ normal saline along with 5 ml KCl was administered at the rate of 16 ml per kg per hour in order to manage dehydration. On investigations, all the blood parameters were found to be in normal range except for lymphocyte count which was increased

to 63%. A plain upright X-ray of abdomen and pelvis was done which showed dilated bowel loops with multiple air-fluid levels suggesting intestinal obstruction. A USG of scrotum was performed which revealed protrusion of abdominal cavity contents through the right inguinal canal into the scrotum of approximately 3.4 cm × 0.7 cm, indicating a right obstructed inguinal hernia. Under general anaesthesia, surgical management of the obstructed hernia was performed with the lower most transverse crease to reach the abdomen. On

opening the hernia sac, appendix and caecum were lying inside the hernia sac. No contents of the hernial sac was necrosed, viability of the intestine was ensured and the appendix was not inflamed. All the contents were reduced into the abdominal cavity. Open herniotomy along with appendectomy was performed and the abdomen was closed in layers. The postoperative period of the patient was uneventful. And he was discharged after three days from the hospital with all vital signs stable and blood parameters normal.



Figure 1: x ray abdomen, showing multiple air fluid levels suggestive of Intestinal obstruction



Figure 2: Intraop picture showing caecum and appendix as a content of hernial sac



Figure 3 : Postoperative case of herniotomy with appendectomy

Clinical discussion

Inguinal hernias commonly occur in males due to weakness in the region of inguinal canal where spermatic cord passes. [1] One-third of males are diagnosed with an inguinal hernia at some point in their lives which show a bimodal age distribution with highest incidence in childhood and beyond 50 years of age. [5] In children, congenital inguinal hernia occurs as a result of patent processus vaginalis. [6] About 1–5% of full-term babies are estimated to have inguinal hernia among which most of them are boys. Indirect inguinal hernias account for nearly all of these hernias. [7]

Inguinal hernias are diagnosed clinically based on the common signs and symptoms. [7] Initially, the patients are assessed based on their history and clinical examination which reveals the appearance of lump in the inguinal region or scrotum. [8] Lump size increases on coughing or crying.

Hydrocele, encysted hydrocele of the cord and undescended testis were kept as differentials for the presenting complaint of an inguinoscrotal swelling. These differentials were ruled out by physical examination. To get above the swelling was not possible and transillumination test was negative which narrowed down the diagnosis to inguinal hernia. [7]

Inguinal hernia can be reducible or irreducible. In irreducible hernias, presence or absence of strangulation should be differentiated.

Strangulated hernia complicates the situation as the blood supply to the intestine is compromised subsequently leading to intestinal obstruction, necrosis and perforation. [7] Our patient had irreducible hernia associated with signs of intestinal obstruction but there were no signs of strangulation.

Confirmation of the intestinal obstruction in our patient was made on the basis of presence of dilated bowel loops and multiple air fluid levels in the erect abdominal X-ray. [7,9] Ultrasonography is the first choice of investigation in case of occult hernias that are not discovered on clinical examination [10]. Moreover, preoperative USG can be used as a diagnostic tool to supplement the clinical examination findings and hence increase the accuracy of diagnosis of inguinal hernia [11]. Our patient also underwent USG of scrotum which showed herniation of abdominal cavity contents through the right inguinal canal confirming it to be a right inguinal hernia.

Clinical experience and consensus suggest that surgical intervention is an effective treatment for inguinal hernia [1]. By assessing the risk of incarceration and strangulation in our case, surgeons preferred immediate open herniotomy.

Watchful waiting strategy should be chosen after considering risk and benefit by the surgeons [12]. Herniotomy is the most preferred management strategy for inguinal hernia in younger children. However, the laparoscopic approach is increasingly used now a days as it offers better visualization of the inguinal region, thereby helping in detecting a contralateral patent processus vaginalis [13].

Overall, inguinal hernias are associated with a good prognosis. There is no significant difference regarding the recurrence rate of open hernia repair (0–6%) and laparoscopic hernia repair (0–5.5%).

Other postoperative complications are chronic pain, hydrocele, wound infection, iatrogenic cryptorchidism, testicular atrophy and injury to the spermatic cord elements. [14]

Conclusion

Inguinal hernias are diagnosed solely based on clinical examination, supplemented by preoperative ultrasonography.

Such hernias containing appendix, caecum are rare and usually associated with intestinal obstruction. Hernia repair along with relieving of intestinal obstruction is the mainstay of treatment.

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