

# An Unusual Case of Right Transmesocolic Hernia with Ureter at the Neck of Sac

Mahendra Singh Gond, Arjun Saxena, Pawan Agarwal, Uday Somashekar, Dhananjaya Sharma\*

*Department of Surgery, Government NSCB Medical College, Jabalpur, India*

*E-mail: dhanshar@gmail.com*

*Received March 5, 2011; revised May 17, 2011; accepted June 20, 2011*

## Abstract

The purpose of the present article is to present an unusual case of internal herniation. In this case small bowel obstruction was due to congenital right trans-mesocolic hernia which had the right ureter at the neck of the sac forming a constriction band. This requires careful widening of neck of hernia, so as to avoid iatrogenic trauma to ureter. This unusual presentation needs dissemination as this type of internal hernia is extremely rare.

**Keywords:** Hernia, Abdominal/Surgery, Intestinal Obstruction/Etiology/Surgery, Mesocolon/Pathology/Surgery

## 1. Introduction

Internal hernia is a rare cause of intestinal obstruction with a reported incidence of less than 1% [1-3]. Its presentation is usually non-specific. Key to its successful operative management is to safeguard the important vascular structures like superior mesenteric artery and inferior mesenteric vein, etc which course through the neck of these hernias [4]. In this case report we present an unusual case of a congenital right transmesocolic hernia with small bowel obstruction which had right ureter at the neck of the sac forming a constriction band. Right ureter has not been reported near the neck of any internal herniation; which makes dissemination of this unusual and rare presentation important, so inadvertent iatrogenic trauma can be avoided to this important structure.

## 2. Case Report

A 35 year old male was admitted in the surgical ward with acute abdominal pain and vomiting. He had a history of similar self limiting episodes in the last 5 years. There was no history of previous abdominal surgery. Abdominal examination revealed generalised abdominal distension, with sluggish bowel sounds; guarding and rigidity were absent. General parameters and routine blood investigations were normal. Plain abdominal x-ray showed multiple air fluid levels (**Figure 1**). Ultrasonography showed dilated bowel loops, with to and fro mo-

tion. The patient did not improve with 48 hours of conservative treatment and was then taken up for exploratory laparotomy.

Mid line vertical laparotomy was done. A defect of 5 cm diameter was found in the mesentery of ascending colon. The entire small gut except the proximal 15 cm of jejunum and terminal ileum had herniated through the

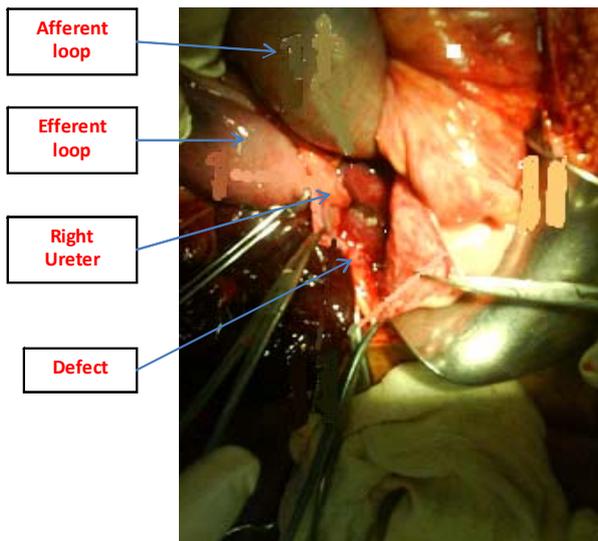


**Figure 1.** Scout film abdomen in upright position showing multiple fluid levels.

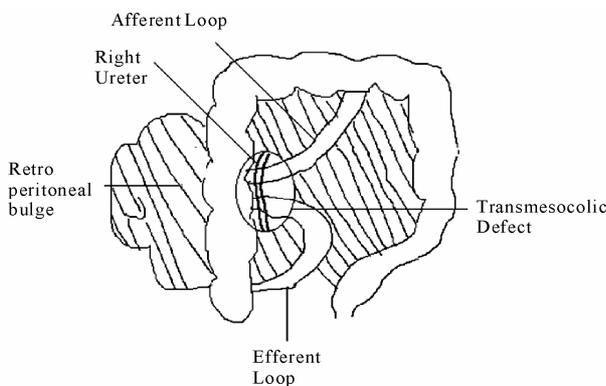
defect and was contained behind the ascending colon creating a retroperitoneal bulge. The caecum and ascending colon were mobilised after incising the peritoneal fold along the ascending colon. The herniated small bowel was viable but congested. A tubular structure was found in the neck of hernia sac, which on closer inspection was determined to be the right ureter (**Figures 2 and 3**). In order to avoid injury to ureter and to widen the neck and to relieve the obstruction, mesocolic defect was widened in the caudal direction, avoiding superior mesenteric vessels on the medial side. There after the herniated loops were pulled back into the peritoneal cavity and the defect was closed by suturing the margins of the defect to the retro peritoneum. The postoperative recovery was uneventful.

### 3. Discussion

Internal hernias are defined as protrusion of a viscus



**Figure 2. Operative photograph showing right ureter the neck of hernia sac.**



**Figure 3. Diagrammatic representation of operative finding showing right ureter the neck of hernia sac.**

through a normal or abnormal peritoneal or mesenteric aperture within the confines of the peritoneal cavity. The orifice can be either acquired, such as a postsurgical, traumatic, or postinflammatory defect, or congenital, including both normal apertures, such as the foramen of Winslow, and abnormal apertures arising from anomalies of internal rotation and peritoneal attachment [1]. With more new surgical procedures being performed using a Roux loop, the number of transmesenteric, transmesocolic, and retroanastomotic internal hernias are increasing [5].

Preoperative clinical diagnosis of internal hernia is extremely difficult because of the nonspecific clinical presentation [6]. Ultrasonography and Computed Tomography are helpful with observation of a saclike mass or cluster of dilated small bowel loops at an abnormal anatomic location [7,8].

Internal herniation through right mesocolon is extremely rare, with very few cases having been reported [9, 10]. Surgeons are taught to keep important vascular structures in mind when incising the neck of internal hernia; e.g. inferior mesenteric vein and ascending left colic artery (left paraduodenal hernia), superior mesenteric artery (right paraduodenal hernia) and portal traid (foramen of Winslow hernia). In the present unusual case small bowel loops migrated through a congenital defect in the mesentery of ascending colon to come to lie behind the ascending colon. There was no malrotation as evident by normal location of the duodeno-jejunal and ileocecal junctions. The right ureter located in the anterior edge of such a mesocolic defect is susceptible to injury if it is not identified and protected while incising the edges to release the entrapped bowel.

### 4. References

- [1] L. C. Martin, E. M. Merkle and W. M. Thompson, "Review of Internal Hernias: Radiographic and Clinical Findings," *American Journal of Roentgenology*, Vol. 186, No. 3, 2006, pp. 703-717. [doi:10.2214/AJR.05.0644](https://doi.org/10.2214/AJR.05.0644)
- [2] M. A. Meyers, "Paraduodenal Hernias: Radiologic and Arteriographic Diagnosis," *Radiology*, Vol. 95, 1970, pp. 29-37.
- [3] V. Passas, D. Karavias, D. Grilias and A. Birbas, "Computed Tomography of Left Paraduodenal Hernia," *Journal of Computer Assisted Tomography*, Vol. 10, 1986, pp. 542-543.
- [4] C. V. Mann, "Intestinal Obstruction," In: C. V. Mann and R. C. G. Russel, Eds., *Baily and Love's Short Practice of Surgery*, Chapman and Hall, London, 1991, pp. 1168-1193.
- [5] A. Blachar and M. P. Federle, "Internal Hernia: An Increasingly Common Cause of Small Bowel Obstruction," *Seminars in Ultrasound, CT and MRI*, Vol. 23, No. 2,

- 2002, pp. 174-183. [doi:10.1016/S0887-2171\(02\)90003-X](https://doi.org/10.1016/S0887-2171(02)90003-X)
- [6] S. Ghiassi, S. Q. Nguyen, C. M. Divino, J. C. Byrn and A. Schlager, "Internal Hernias: Clinical Findings, Management, and Outcomes in 49 Nonbariatric Cases," *Journal of Gastrointestinal Surgery*, Vol. 11, No. 3, 2007, pp. 291-295. [doi:10.1007/s11605-007-0086-2](https://doi.org/10.1007/s11605-007-0086-2)
- [7] S. B. Vijayaraghavan, "Sonographic Features of Internal Hernia," *Journal of Ultrasound in Medicine*, Vol. 25, No. 1, 2006, pp. 105-110.
- [8] N. Takeyama, T. Gokan, Y. Ohgiya, S. Satoh, T. Hashizume, K. Hataya, H. Kushiro, M. Nakanishi, M. Kusano and H. Munechika, "CT of Internal Hernias," *Radiographics*, Vol. 25, No. 4, 2005, pp. 997-1015.
- [9] L. F. Tauro, G. Vijaya, C. R. D'Souza, H. C. Ramesh, S. R. Shetty, B. R. Hegde and J. Deepak, "Mesocolic Hernia: An Unusual Internal Hernia," *Saudi Journal of Gastroenterology*, Vol. 13, No. 3, 2007, pp. 141-143. [doi:10.1148/rg.254045035](https://doi.org/10.1148/rg.254045035)
- [10] Y. Narjis, R. Jgounni, M. N. El Mansouri, K. Rabbani, R. Hiroual, K. Belhadj, A. Ousehal, B. Finech and A. El Idrissi Dafali, "Transmesocolic Internal Herniation: A Rare Case of Small Bowel Obstruction, 'the Marrakesh Hernia'," *Hernia*, Vol. 14, No. 4, 2010, pp. 427-429. [doi:10.1007/s10029-009-0553-7](https://doi.org/10.1007/s10029-009-0553-7)