

# Sliding hernia with appendix, cecum, ascending colon forming sliding component and transverse colon and greater omentum forming contents of the sac: A case report

Manash Ranjan Sahoo, T Anil Kumar

## ABSTRACT

**Introduction:** Inguinal hernia is quite common in surgical practice. However, sliding hernia is rare with an incidence of 2–5%. The exact diagnosis of sliding hernia is made on the operating table. We report the case of sliding hernia containing transverse colon and its greater omentum as contents and appendix, caecum, ascending colon forming the sliding component. **Case Report:** A 70-year-old man presented with huge right sided groin hernia. Under general anesthesia reduction of the hernia was tried but it could not be reduced fully. Hence, very carefully the sac was opened and was found to contain transverse colon and greater omentum with appendix, caecum, ascending colon forming its posterior wall. The contents were reduced and the sac was closed carefully. Posterior wall was reinforced with prolene mesh. Patient was discharged after seven days. **Conclusion:** Sliding hernia is a rare entity and those containing transverse colon, ascending colon, caecum and appendix are even rarer. Care must be taken to identify the contents of the hernia to avoid inadvertent injury to the structures.

**Keywords:** Sliding hernia, Transverse colon, Ascending colon, Cecum

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## INTRODUCTION

Sliding hernia is rare with an incidence of 2–5%. A sliding hernia is a protrusion of a retroperitoneal organ(s) through an abdominal wall opening, with or without its mesentery and with or without an adjacent peritoneal sac. These retroperitoneal organs may be the cecum, ascending colon or appendix on the right side and the sigmoid colon on the left side, or the uterus, fallopian tubes, ovaries, ureters and bladder on either side. The presence of these organs has been reported exceptionally in the literature and very infrequently it might even contain ascending colon and stomach. We report the case of sliding hernia containing transverse colon and its greater omentum as the contents and appendix, cecum and ascending colon forming the sliding component.

## CASE REPORT

A 70-year-old male presented with huge right sided groin hernia. Clinically it was diagnosed as indirect inguinal hernia as it was extending till the level of the testes. However, deep ring occlusion test could not be

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carried out as hernia was difficult to reduce. Routine blood investigations were within normal limits. Ultrasound of abdomen and pelvis was normal. Chest X-ray had changes of chronic obstructive pulmonary disease but the patient did not have any respiratory symptoms like cough, wheeze or breathlessness. The patient was posted for surgery. Under general anesthesia through an incision above and parallel to inguinal ligament extending to root of scrotum, cremasteric box was reached. It was incised longitudinally for better access to spermatic cord and internal ring. The cord was then separated from the sac and dissection was kept close to spermatic cord. The sac was palpated between two fingers and was found to be thick in most of the areas except anteriorly and at its tip. It was now tried to reduce the contents of the sac by holding the tip of the sac with artery forceps at its thinnest point but it could not be reduced fully, hence, the sac was opened carefully at its thinnest point and found to contain transverse colon and greater omentum within the sac. At the thick area posteriorly, to our surprise cecum, appendix and ascending colon was found forming part of the sac, identified by taenia coli and haustrations (Figure 1). The contents within the sac were reduced (Figure 2). Only part of the sac which was thin was removed leaving the posterior part formed by cecum, appendix and ascending colon and thin part of sac (Figure 3). Adhesions at the internal ring were released carefully. Sac was closed carefully, starting a little away from the posterior wall where a small part of the thin sac was left behind (Figure 4). Then whole of the hernial sac including the posterior wall after closure, was reduced into the peritoneal cavity. Big patulous internal ring was closed with 1-0 prolene after orchidectomy. Posterior wall was reinforced with prolene mesh. Post-operative period was uneventful except that the patient developed cough on second post-operative day. He was given antitussives and bronchodilators for four days after which the symptoms subsided. Patient was discharged after seven days.

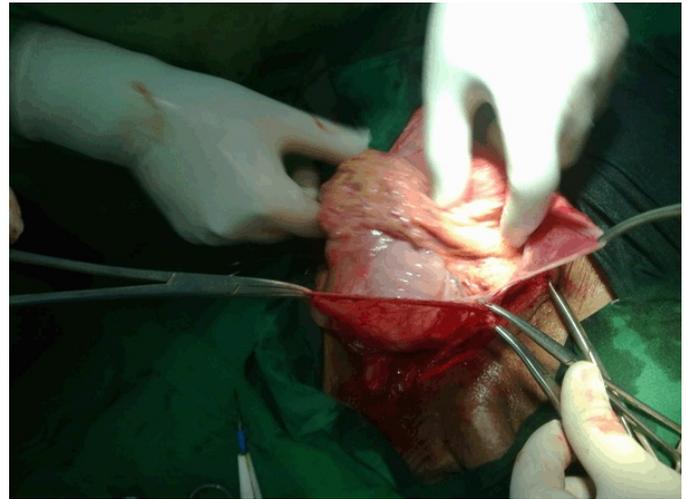


Figure 2: Contents were reduced after opening the hernia sac.



Figure 3: Removal of part of the hernial sac.

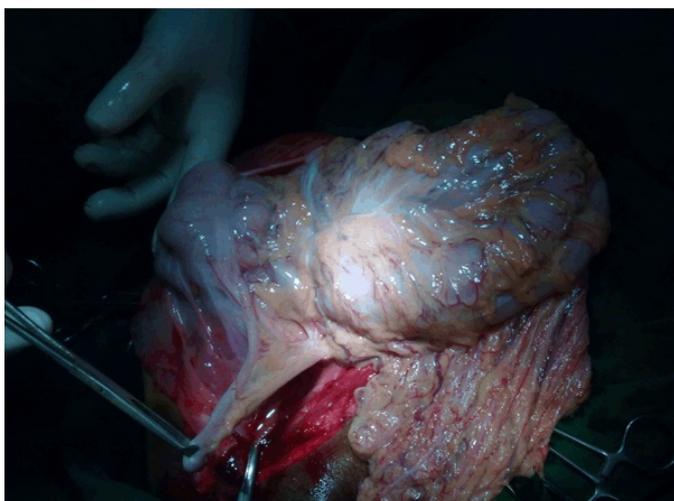


Figure 1: Hernial sac containing transverse colon with greater omentum; with appendix, cecum, ascending colon forming its posterior wall.



Figure 4: Closure of the hernial sac.

## DISCUSSION

Galen (130–200 AD) gave us the first description of a sliding hernia involving the cecum. If Condon's [1] dictum "the anatomy of the inguinal region is misunderstood by some surgeons at all levels of seniority" is correct, it is safe to say that sliding hernias are understood by few surgeons at any level of seniority. As observed by Ryan et al. [2, 3], Glassow et al. [4] and Welsh et al. [5], sliding inguinal hernias accounts for 8% groin hernias, with a left to right ratio of 4.5:1. Maingot et al. [6], however, found a 1.5:1 preponderance of right sided sliders. In the series of Ryan et al. [2, 3] 8% were bilateral and women made up only 1% of the 3,000 patients analyzed. After the age of 50 years the incidence of sliding hernias is 3.5 times more frequent. The incidence of sliding inguinal hernia increases with the age of the patient. It is nearly zero before the age of 30 years and increases to as much as 20% after the age of 70 years. Our patient was seventy years old, one of the factors that might have contributed to sliding hernia. In the pediatric population boys are not subject to sliding hernias, whereas in "female pediatric patients, inguinal hernias are usually sliding hernias" with the mesosalpinx adherent to one side of the sac (type II) [7]. The exact diagnosis of sliding hernia is made on the operating table. In our case too, diagnosis of sliding hernia was made intra-operatively. Complications like incarceration, strangulation and obstruction of the hernia can occur. The presence of vermiform appendix, acute appendicitis, ovary, fallopian tube and urinary bladder has been reported in sliding hernia, exceptionally, in literature. Very infrequently it might even contain transverse colon and stomach. The mechanism whereby the viscus or viscera "slide" has not been fully explained. Before the slide can take place, however, there must be a widening of the internal inguinal ring; this is the precondition of an indirect inguinal hernia. In our case the internal inguinal ring was wide and patulous.

Ryan et al. after studying a series of 313 cases reported that in 47% patients no sac was removed and in 43% only a part of the sac was removed. In the remaining 10% cases, the sliding hernia was small and most of the sac was removed [2]. In our case also since hernial sac was large, only a part of hernial sac was removed. Ryan et al. also emphasized that the important step in the operation is to reconstruct the posterior inguinal wall in order to confine the sliding elements of the hernia to the preperitoneal space. This was achieved with a recurrence of less than 1%, at a time when one report from Philadelphia admitted total recurrence rate of 55% [2]. We reinforced the posterior wall by suturing it with prolene mesh. High ligation of the sac should not be attempted, as it is not necessary.

## CONCLUSION

Hernia per se is not a difficult surgical condition but assumes importance when there is delay in seeking

medical care, ultimately leading to increased morbidity. Sliding hernia is rare and those containing transverse colon as content of hernia sac and ascending colon along with cecum and appendix as sliding component is very rare. A large hernia of long duration in an elderly patient should cause suspicion of a sliding hernia. Care must be taken to identify the contents of the hernia to avoid inadvertent injury to the structures.

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## Author Contributions

Manash Ranjan Sahoo – Conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Final approval of the version to be published

T Anil Kumar – Conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Critical revision of the article, Final approval of the version to be published

## Guarantor

The corresponding author is the guarantor of the submission.

## Conflict of Interest

Authors declare no conflict of interest.

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