Case Report

# Reduction en masse in a strangulated direct inguinal hernia

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## Abstract

**Background:** Direct or Internal Inguinal Hernia is quite commonly encountered in elderly people due to laxity of posterior wall following repeated distention and straining. It is uncommon to undergo complication such as obstruction, strangulation, perforation in a direct , complete inguinal hernia. Hernial Reduction En Masse is rare to encounter and requires high degree of clinical suspicion, more likely to be unnoticed and can end up being fatal to the patient. We report a case of a strangulated, direct, complete inguinal hernia which perforated following spontaneous En Masse reduction.
**Keywords:** strangulated inguinal hernia, reduction En Masse, perforation.

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## INTRODUCTION

Direct Inguinal Hernia extending all the way into the scrotum (complete hernia) although previously described in literature, not very commonly encountered. The same to undergo strangulation, perforation following spontaneous reduction en masse is a rarity.

## CASE PRESENTATION

A 60-years-old male patient walked into our outpatient department with complaints of swelling in his right groin extending all the way up to the base of scrotum for the past 5 years, completely disappeared on lying down. Patients was admitted, all blood investigation were within normal limits, chest was clear and ultrasound abdomen showed no abnormality but for mild prostatomegaly with a post void residual urine of 15 ml. On day 3 of admission, developed sudden onset pain abdomen, tachycardic, tachypnoec and abdominal distension with irreducible tender swelling in the right groin extending up to the base of right scrotum. X-ray abdomen erect showed multiple air-fluid levels (Fig 1). Patient was resuscitated, nasogastric tube inserted, underwent emergency exploration of the right inguinal hernia. Intra - peratively hernial sac extending into the scrotum (fig 1) was dissected and found to be free from the cord structures. On palpating the inferior epigastric artery, the sac was medially placed confirming the direct hernia. Reduction without opening the sac was attempted but failed, hence on opening the sac, foul smelling greenish fluid with no content was noted (Fig 2). Although there was viable bowel loop seen inside the sac the nature of the fluid led to the suspicion of perforation of bowel loop elsewhere which might have got reduced spontaneously(En Masse reduction). Laparotomy done using lower midline approach, revealed edematous, strangulated terminal ileal loops (Fig 3) in the retropubic region with perforation approximately 30 cms proximal to the ileocaecal junction (Fig 4). We had to resected the involved segment and primary anastamoses of the remaining ileum was done using linear cutter stapler. Abdomen was closed following drain placement in the peritoneum, redundant sac excised and primary repair strengthening the posterior wall was done using non absorbable sutures. Patient postoperative period was uneventful, passed flatus on

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post-operative day 3, nasogastric tube was removed and started on feeds on post operative day 6, Drain removed on post-operative day‘9’ and was discharged on day10. On follow up patient had minimal collection at the wound site which was drained and managed with appropriate antibiotics.

Figure 1

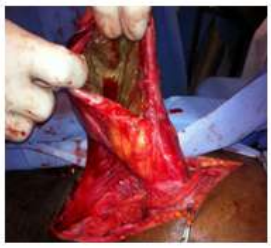

Figure 2

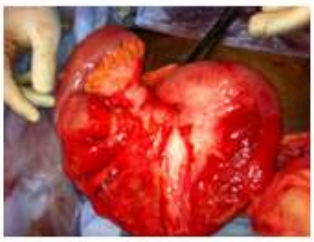

Figure 3

Figure 4

## DISCUSSION

Inguinal Hernias are one of the most commonly encountered conditions in our population. As surgeons, a clear anatomical knowledge and high index of suspicion is required to manage a case of complicated inguinal hernia. Reduction En Masse is an uncommon entity not well known, a condition in which the content undergoes spontaneous reduction along with the sac which can be displaced in four various types.

1. Retropubic: Posterior displacement of the viscus behind the pubis
2. Intra-abdominal: inversion of the hernial sac with the strangulated bowel displaced into the abdominal cavity
3. Preperitoneal: reduction of hernial sac with displacement into the preperitoneal area.
4. Preperitoneal Locule: formation of the locule in the preperitoneal pouch due to reduction of the sac

The latter two categories can be described as interparietal hernias which occur due to displacement of original position of hernia in the scrotum or crural sac. Most of the En Masse reductions reported in the literature are manually reduced cases and spontaneous reduction is even more rare. It is most often missed pre-operatively as it manifests with no specific signs or symptoms. The first reported case in literature was by Luke in 1843[2]. About 200 cases have been reported worldwide. Although a rarity by itself, the exact number of cases to present with perforation following an En Masse reduction of direct sac is never heard of. According to Pearse, reduction En Masse occurs in about 1 in 13000 hernia patients[3]. The peculiarity in our case is that reduction En Masse occurred in an isolated, compete, direct hernia which falls under Zollinger classification type VI (large direct)[4]. High index of suspicion led to a mini laparoto my which identified a perforation in the region of terminal ileum lodged in the retropubic area. It is not very uncommon to miss a perforation while trying to repair the direct defect from an anterior approach so when in doubt, it is a wise decision to make a laparotomy to look for perforation of the remaining bowel loops. The noteworthy features of our case:

1. The rarity of true direct complete inguinal hernia
2. The possibility of strangulation of a direct sac should be considered in all patients
3. Reduction En masse is more likely to occur on anatomical grounds
4. High index of suspicion is required to identify perforation. An additional laparotomy although increases the morbidity, definitely worthwhile in such cases to avoid mortality.

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