

Complete Omental Torsion Associated with Left Inguinal Hernia: Case Report and Review of the Literature

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Complete Omental Torsion Associated with Left Inguinal Hernia: Case Report and Review of the Literature

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INTRODUCTION

Omental torsion as a cause of acute abdomen is an extremely rare condition. The omental torsion may be left- or right-sided and classified as primary, without identifiable pathology, or secondary, associated with various intra-abdominal processes. Those that are right-sided and secondary are more common. The diagnosis is rarely made preoperatively, but with increased usage of abdominal computed tomography (CT) scans in the emergency setting, this process is able to be included in the differential diagnosis. We report a case of a 17-year-old male athlete who presented with an acute abdomen. He was found to have complete secondary omental torsion associated with a large left inguinal hernia.

CASE REPORT

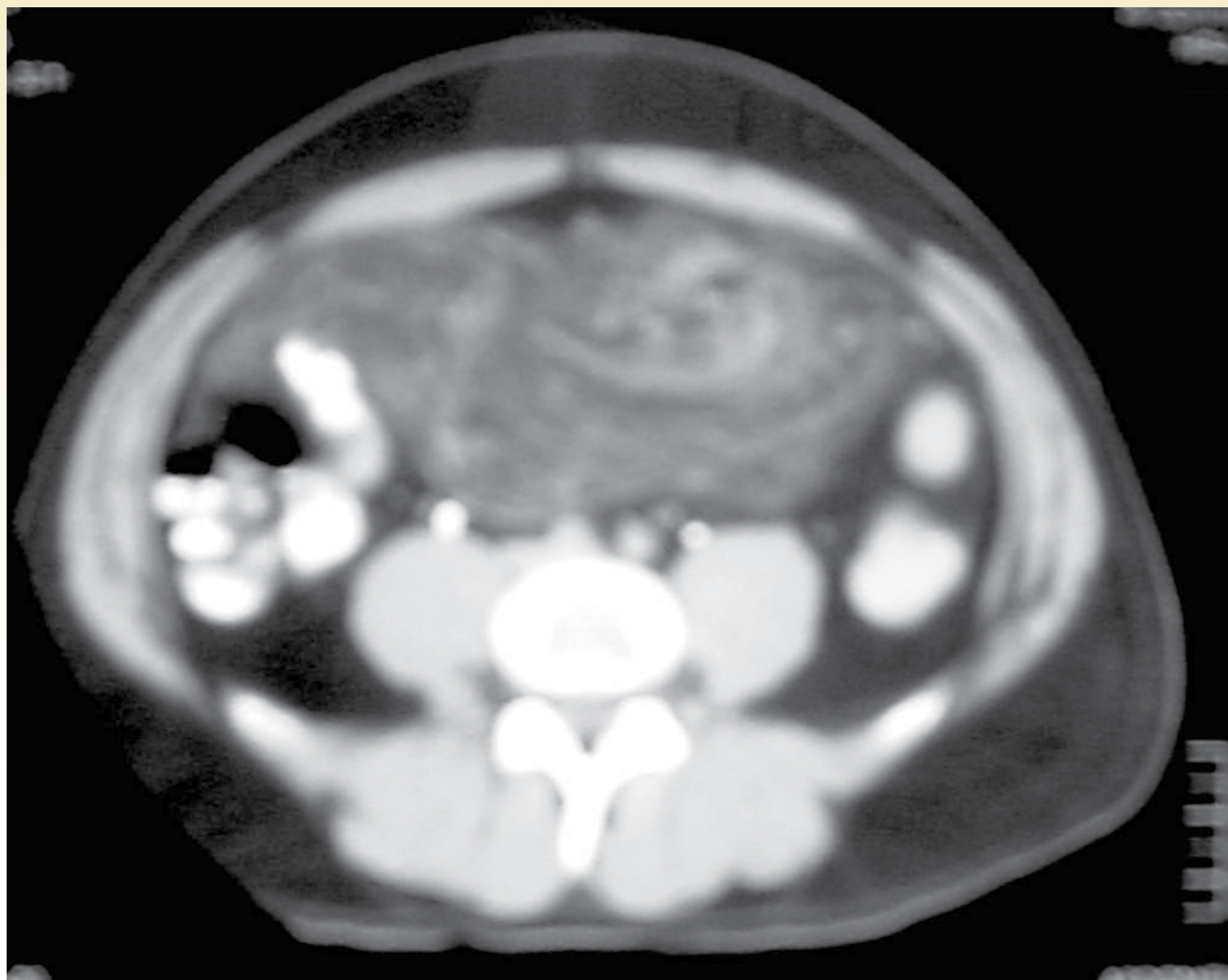
A 17-year-old male presented to the emergency department with an acute onset of diffuse abdominal pain. He was playing football when these symptoms occurred. There was concern for abdominal trauma although the patient denied any significant mechanism for injury. CT scan of the abdomen revealed a large inflammatory mass in his mid-abdomen extending into a large left inguinal hernia (Fig. 1, 2). He was then taken to the operating suite and underwent exploratory laparotomy. At exploration he was found to have torsion of the entire omentum with a left inguinal hernia as the lead point (Fig. 3). We performed a total omentectomy (Fig. 4) and a left inguinal hernia repair (Fig. 5). The patient had an unremarkable postoperative course and was discharged on day 2. The pathology was consistent with omental infarction.

DISCUSSION

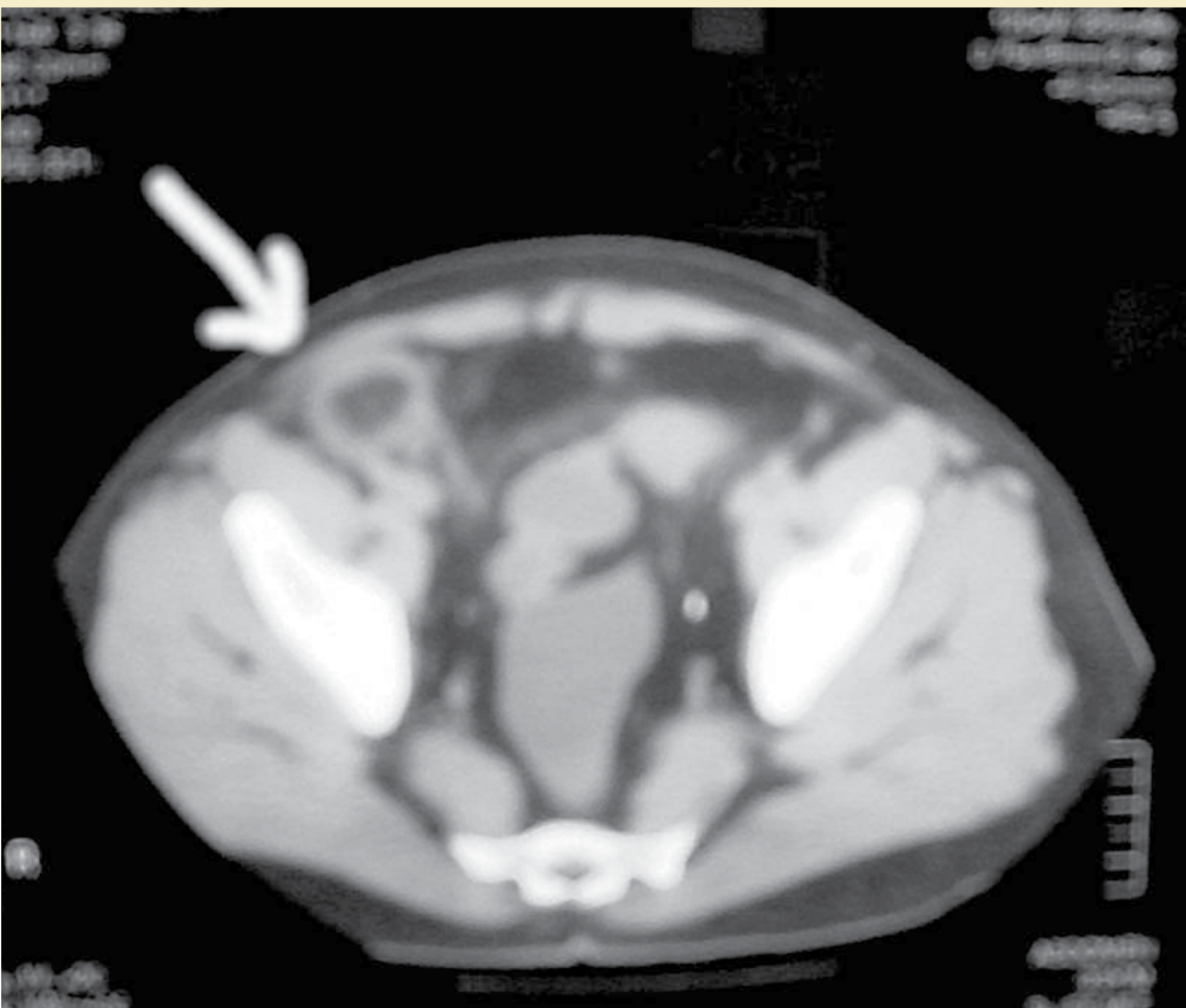
Torsion of the greater omentum is an uncommon entity, found in 0.1% to 0.5% of children undergoing operations for presumptive appendicitis. Approximately 15% to 20% of cases occur in children. In adults, more than 85% of the reported cases occur in the fourth and fifth decades of life and males are affected twice that of females. Symptoms are usually nonspecific and patients display manifestations of an acute abdomen such as appendicitis or sigmoid diverticulitis. The abdominal pain is usually sudden, intense, and without radiation. The location of the abdominal pain can be diffuse, if the entire omentum is involved, or located in a single quadrant, if there is a partial torsion.

Diagnosis of this disorder has traditionally been difficult because of the nonspecific nature of the history and physical examination which explains why the majority of previously reported cases of omental torsion were diagnosed at laparotomy. CT scans of the abdomen are useful in this situation and can aid in the preoperative diagnosis and with the elimination of various other similar conditions. Omental torsion can easily be differentiated from appendicitis, and sigmoid diverticulitis by the characteristic inflammation surrounding these organs. Epiploic appendagitis is difficult to differentiate from omental torsion because both show an inflamed fatty mass on CT scan; however, epiploic appendagitis is usually located adjacent to the colon, whereas omental torsion is usually in a more medial location. Intestinal volvulus may appear similar to omental torsion as the afferent and efferent loops of bowel rotate around a fixed point of obstruction, causing the mesentery to twist along the axis

of rotation, although, the central location within the mesentery and the appearance of a bowel obstruction are findings of intestinal volvulus. The presence of a whirl pattern of inflammatory tissue, potentially with a fluid cavity based on the amount of necrosis present, are characteristic CT scan findings of omental torsion. There is usually a distinction made between primary and secondary omental torsion. Primary or idiopathic torsion is less frequent and may be related to anatomical malformations, such as a bifid omentum or accessory omentum, omental consistency, or vascular abnormalities within the omentum. There are usually multiple rotations of a mobile segment of omentum around a fixed pedicle. Secondary torsion is the more common form and due to intra-abdominal pathology such as inflammatory processes, postoperative adhesions, herniation, or neoplasms. Left-sided torsion is exceptionally rare and there are only sporadic reports in the literature. The vast majority of these cases have right-sided omental torsion owing to the greater length, size, and mobility in relation to the left side. Predisposing factors inducing omental damage such as abdominal trauma, omental displacement such as hyperperistalsis after a large meal or enteritis, or raised intra-abdominal pressure from heavy exercise or coughing, allow for omental torsion with compromise of venous outflow and subsequent edema leading to eventual infarction. Standard treatment consists of laparotomy with resection of the affected portion of omentum and correction of associated processes causing a secondary torsion. Recent reports have shown that laparoscopy can be used to successfully diagnose and treat omental torsion as well.



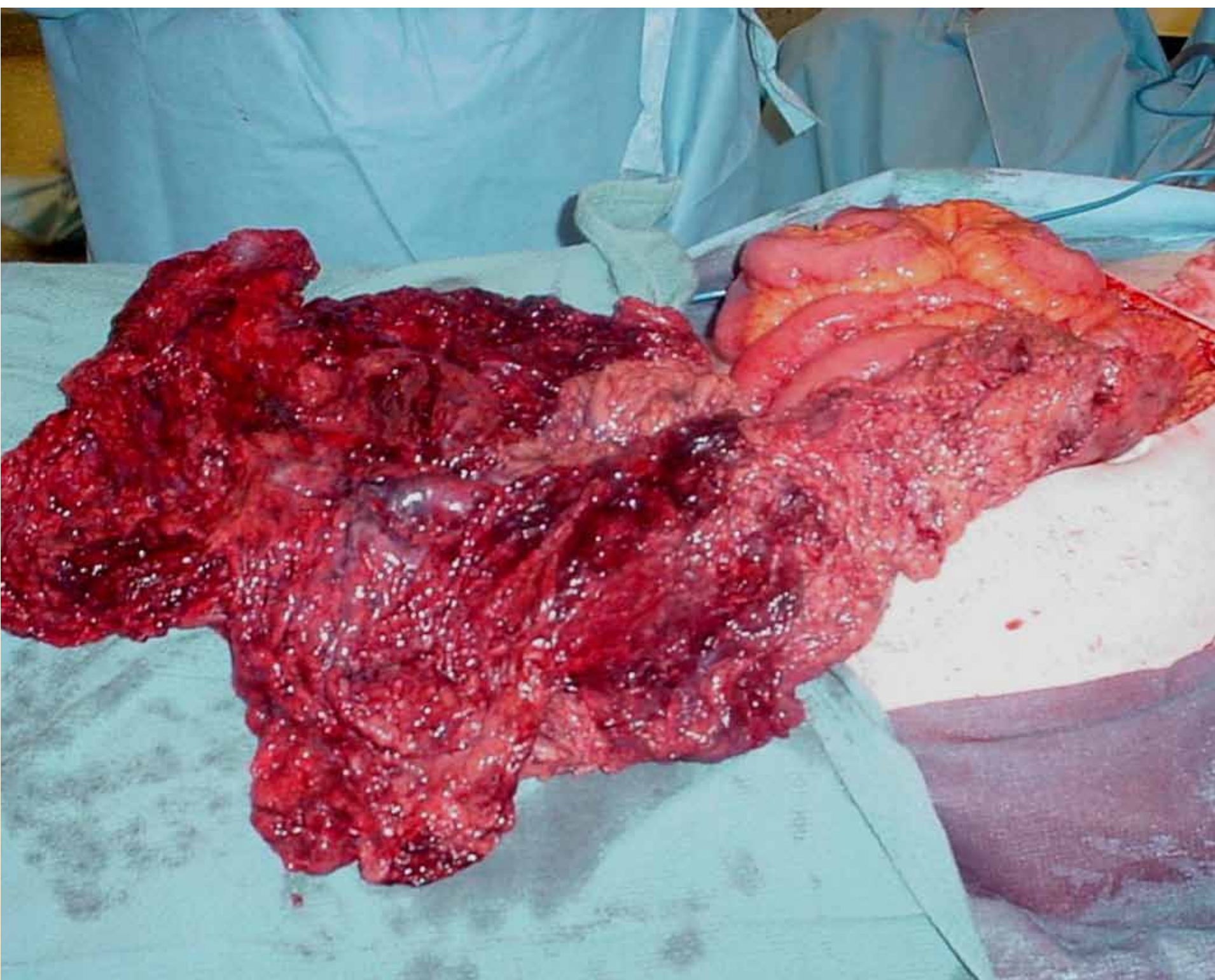
▲ Fig 1. CT scan showing large inflammatory mass.



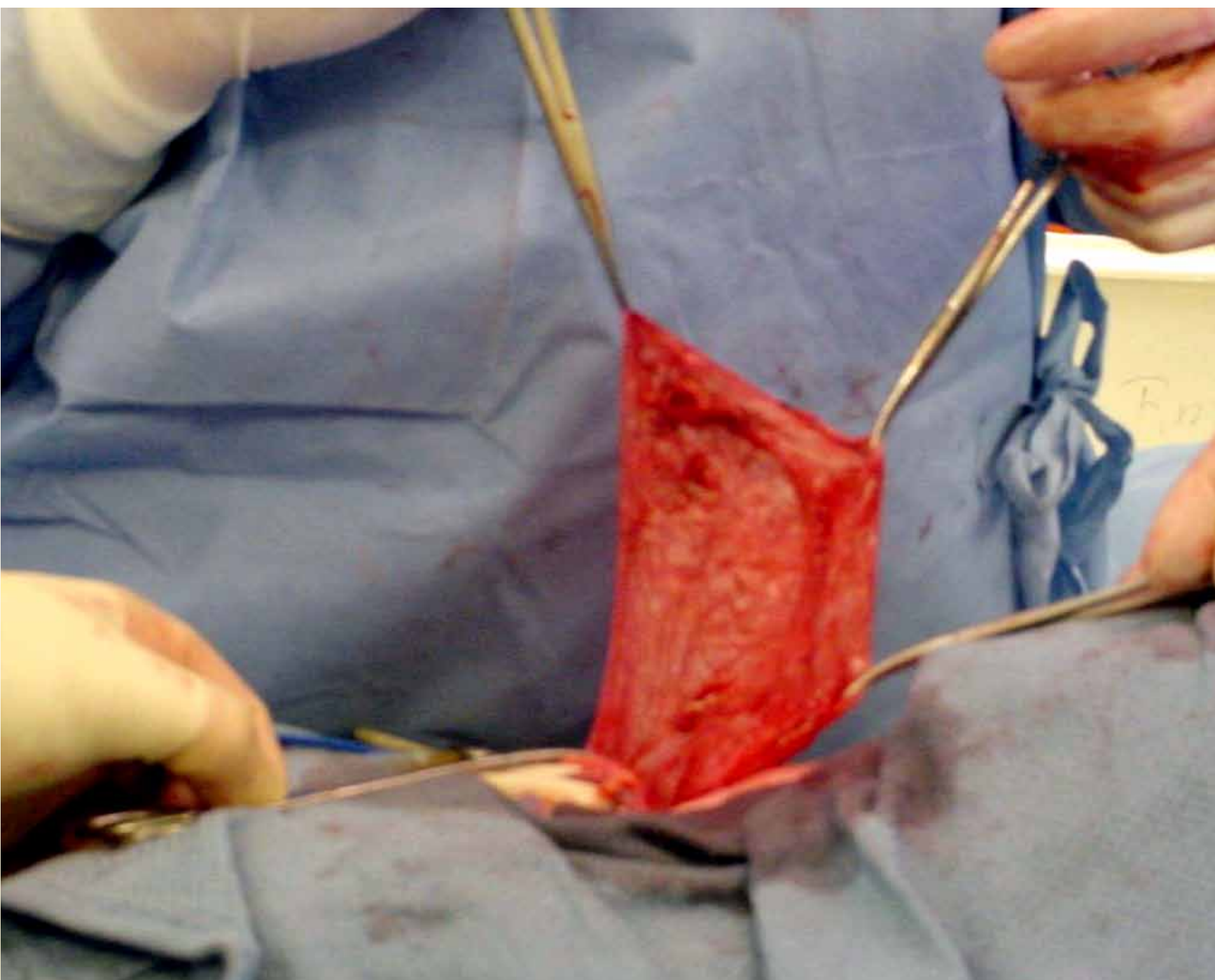
▲ Fig 2. CT scan showing inflammatory mass extending into left inguinal hernia (white arrow).



▲ Fig 3. Complete omental torsion at exploratory laparotomy (white arrow).



▲ Fig 4. Excised omentum which was extending into left groin.



▲ Fig 5. Large left inguinal hernia sac associated with omental torsion.