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Richter's Type Femoral Hernia: Diagnostic Difficulty

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Abstract: *Femoral hernias are relatively uncommon; however, they are the most common incarcerated abdominal hernias with strangulation of viscous carrying significant mortality. Femoral hernia has often been found to be the cause of unexplained bowel obstruction. Femoral hernias are known for atypical presentations like painless groin swelling, groin cellulitis/necrotizing fasciitis. Diagnosing Richter's femoral hernia is often difficult especially in obese patients. Delay in diagnosis may occur, especially because a strangulated femoral hernia doesn't always present with typical groin swelling and signs of strangulation. We report a case of 58 yr old female presenting with abdominal distension and vomiting since 15days, with a non tender swelling in right groin without signs of strangulation. On exploration, Richter's femoral hernia with part of small bowel wall as content which was gangrenous necessitating resection and anastomosis.*

Keywords*: Richter's femoral hernia, Strangulation, Groin swelling.*

I. Introduction

The earliest known reported case of Richter's hernia occurred in 1598 and was described by Fabricius Hildanus. The first scientific description of this particular hernia was given by August Gottlob Richter in 1778, who presented it as "the small rupture." In 1887, Sir Frederick Treves gave an excellent overview on the topic and proposed the title "Richter's hernia." To his work—a cornerstone to modern understanding—hardly any new aspects can be added today. Since then, only occasional case reports or small series of retrospectively collected Richter's hernias have been published [1].

Femoral hernia is relatively uncommon, making up 2-8% of all adult groin hernias. Incarcerated femoral hernias, however, are most common incarcerated abdominal hernias with strangulation of viscous carrying up to 14% mortality. They have high rate of complications owing to narrowness and rigidity of femoral canal. It is twice common in parous women than nonparous women. Approximately 60% of femoral hernias are found on right side, 30% in left side and 10% are bilateral. They typically present as a groin lump clinically lateral and inferior to pubic tubercle. They often require emergency surgery because of incarceration or strangulation of intestine. In addition, intestinal resection may need to be considered based on intestinal viability.

Factors predisposing to femoral hernias include pregnancy, obesity, pelvic mass, urinary retention and constipation. Furthermore, weakening of transversalis fascia due to old age may be implicated. Diagnosing the lump in groin is often difficult especially in obese patients. Delay in diagnosis may occur, especially because a strangulated femoral hernia doesn't always typically present with groin swelling and local signs of strangulation.

Differential diagnosis of femoral hernia includes pseudohernia, Femoral artery pseudoaneurysm, Saphenous vein varicosity, Soft tissue masses and lymphadenopathy which can be differentiated by proper clinical examination and imaging. Definitive preoperative diagnosis and strategic planning for surgery are thus important as it can be easily mistaken with other differential diagnosis of groin swellings and most importantly it doesn't always present with typical features of strangulation as in our case.

II. Case Report

A 58 yr old female presented with abdominal distension, vomitings since 15 days and constipation since 5 days. History of present illness started as diffuse pain abdomen, vomiting [bilious and undigested food]. No fever, no past surgeries. On examination she was apyrexic, PR: 100/min, BP: 110/70, RR: 16/min, a non tender, irreducible, mobile 3x3cm swelling found in the right groin with no signs of inflammation/strangulation [Fig-1]. Abdomen distended but soft, no tenderness and absent bowel sounds.

Work up in the emergency department showed unremarkable blood investigations, X-ray erect abdomen showed distended bowel loops with multiple air fluid levels, USG & CT abdomen were reported as small bowel obstruction probably at terminal ileum with collapsed large bowel loops & A single enlarged right inguinal lymphnode . Later a repeat USG by an experienced radiologist revealed the suspicion of right femoral

hernia with bowel incarceration. The patient was subsequently taken to the theatre and right inguinal region explored with transinguinal approach which confirmed a right sided Richter's femoral hernia with part of the small bowel wall as content which was gangrenous and opened up [Fig-2&3]. Inguinal ligament was divided in this case to release the neck of the sac [Fig-4]. Resection of gangrenous segment and end to end anastomosis was done in two layers. Posterior wall repaired with reinforcement of inguinal ligament to the pectineal ligament using interrupted non absorbable sutures (2'0' prolene). Mesh was avoided due to gross contamination of wound, gangrenous bowel and delayed presentation. Post operative period was uneventful and she was discharged on POD 10.

III. Discussion

The precondition for the formation of this particular hernia, as stated by Richter, is determined by the size and consistency of the hernial orifice: it must be big enough to ensnare the bowel wall, but small enough to prevent protrusion of an entire loop of the intestine, and the margin of the hernial ring must be firm [6]. According to others the presence of a tight constricting ring is a prerequisite for strangulation and compromised blood circulation, which finally leads to ischemia and gangrene [7, 8]. Richter's hernias tend to progress more rapidly to gangrene than ordinary strangulated ones This may be explained not only by the firm constricting ring that exerts direct pressure on the bowel wall, but also by the anatomical peculiarity that, as a rule, it is the free border of the intestine opposite the mesentery with the predominance of terminal arterioles that is involved. It can also be explained by the time factor. In most cases, where less than two thirds of the circumference of the bowel wall is involved [Fig-5], the lumen of the gut remains free and an alarming intestinal obstruction is absent. This insidious pathologic feature of Richter's hernia often leads to late diagnosis or even misdiagnosis, thus allowing time for bowel necrosis to develop.

Making the diagnosis of Richter's hernia may be difficult because of the apparently innocuous initial symptoms and sparse clinical findings; the diagnosis may remain presumptive until clearly confirmed at surgery. The first mild symptoms, such as vague abdominal pain and slight malaise, may not be appreciated, resulting in delayed diagnosis [7,8]. There may be nausea and vomiting, but they are on the whole less common and less severe than in the usual form of strangulation because obstruction is rarely complete. Clinical and radiologic signs of an ileus are present in approximately 10% of patients; in the absence of a complete mechanical obstruction, this can be due to paralysis. Local signs may be absent or discrete and, if present, are easily overlooked or misinterpreted. Throughout the literature, the most constant physical finding remains tenderness or swelling over a potential hernial orifice. Overlying erythema should heighten the index of suspicion.

A small hernia in the femoral canal, the most common site of Richter's hernia (in whites), is sometimes masked by body fat or an enlarged lymph node or is mistaken for acute lymphadenitis. If local gangrene of the intestinal wall occurs, the classic signs of inflammation appear (painful swelling, redness of the overlying skin, and local heat). In the early stage, this groin swelling can be discrete and can appear as a local abscess or as subcutaneous emphysema caused by anaerobic infection.

If surgery is performed too late or not at all, natural healing may occur in the form of drainage through an enterocutaneous fistula. Under certain conditions (a self-limiting septic process, a low-output fistula, and free intestinal passage), the fistula may spontaneously close, as observed by Fabricius Hildanus, but it may also persist for months, as reported by others [11, 12]. Perforation into another compartment, such as the scrotum, vulva, thighs, or peritoneal cavity [13], may also occur, producing a severe clinical course with considerable morbidity and a high death rate. With the appearance of peritonitis, the prognosis becomes highly unfavorable. Gangrene has been found as early as the third day of strangulation [10], but the development of an enterocutaneous fistula may take as long as several months

Patients with perforated hernia require timely and sometimes aggressive preoperative resuscitation, consisting of isotonic rehydration and antibiotic therapy. In some cases, positive preoperative balances up to 9,000 ml were necessary. Surgery is the only treatment. Richter's hernias in the groin without apparent signs of perforation can be handled as ordinary inguinal hernias. Preliminary attempts at manual reduction should be avoided because the viability of the hernial sac can be determined by direct inspection only. When possible, we avoid a segmental resection and close the defect after a careful debridement of the margins. However, the rule regarding strangulation ("When in doubt, resect") should be respected.

Classically three approaches are described to open femoral hernia repair: Lockwood's infra-inguinal, Lotheissen's trans-inguinal and McEvedy's high approach. Irrespective of the approach used the following will be achieved: Dissection of sac, Reduction/inspection of contents, Resection if the bowel is nonviable, ligation of sac and approximation of inguinal and pectineal ligaments. In our case we used a transingunal approach for femoral canal [Fig.6].

IV. Figures

Fig-1: Pre operative groin swelling with no skin changes

Fig-2: Femoral hernia below inguinal ligament

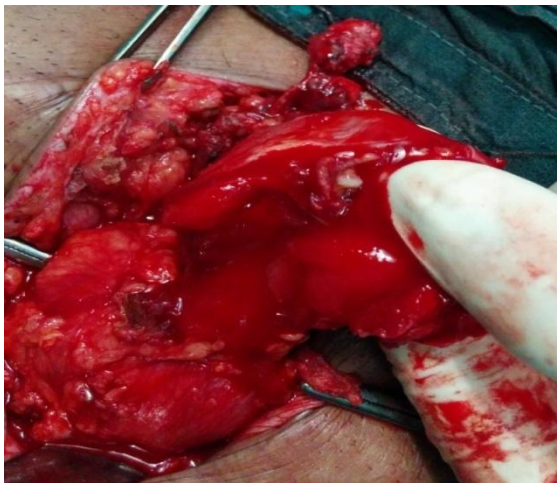

Fig-3 : Gangrenous & opened up small bowel content

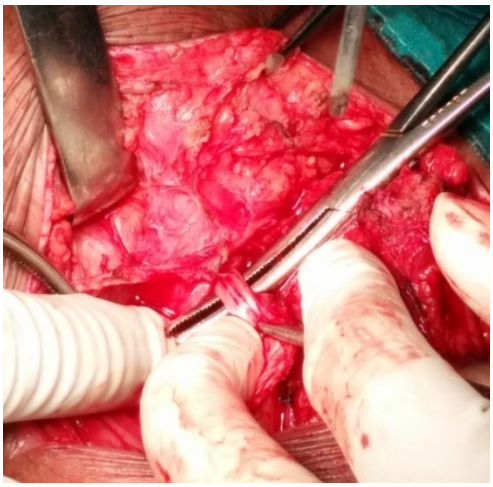

Fig-4 : Division of inguinal ligament to release the neck

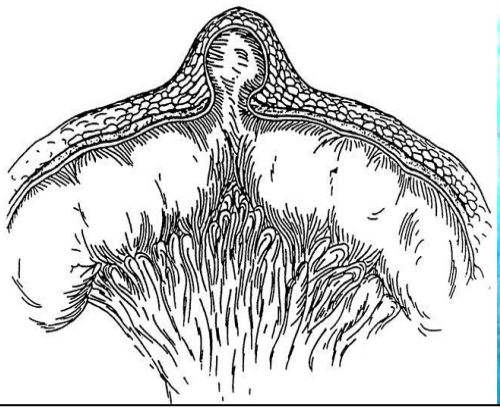

Fig-5: Partial entrapment of bowel wall with preservation of luminal continuity.

Fig-6 : Transinguinal approach-post operative scar photo.

V. Conclusion

Femoral hernia has often been found to be the cause of unexplained bowel obstruction. An abdominal X-ray showing small bowel obstruction in a female patient with painful groin lump needs no further investigation. Diagnosis is largely a clinical one. However, in difficult patients as in obese, imaging in the form of USG abdomen & CT/MRI may help in diagnosis. The entrapped small segment of bowel wall would be difficult to visualize on computed tomography, and contrast studies would be unrevealing in the early stages, when there is still patency. Therefore, awareness during the clinical examination remains the key for proper diagnosis and timely surgery.

Correct preoperative diagnosis of femoral hernia and strict operative strategy are of utmost importance to prevent undue morbidity and mortality. Once the diagnosis is established, the acute infection phase is under control, and the patient undergoes successful surgery, the outcome does not differ from that of ordinary strangulated hernias.

References

[1]. Ann Surg. 2000 Nov; 232(5): 710–718. PMCID: PMC1421226
[2]. Davd T:"Strangulated femoral hernia", Med J Aust 1967,1:258.
[3]. Franklin ME etal,"Preliminary experience with new bioactive prosthetic material for repair of infective fields", hernia pubmed 2002,601-6, 171-174.
[4]. Tingwald GR, Cooperman M,"Inguinal and Femoral hernia repair in geriatric patients", Surg Gynaec Obst 1982, 154:704-706.
[5]. Kulah B etal," Emergency hernia repairs in elderly patients", Am J Surg 2001, 182(5),455-459.
[6]. Richter AG. Abhandlung von den Brüchen. Göttingen: Johann Christian Dieterich; 1785.
[7]. Pualwuan F. Operative aspects of Richter's hernia. Surg Gynecol Obstet 1958;106:358– 362. [PubMed]
[8]. Keynes WM. Richter's hernia. Surg Gynecol Obstet 1956; 103: 496–500. [PubMed]
[9]. O MC.Donnell, A Adas," An obstructed femoral hernia", the internet journal of radiology, vol.7,no.1, 2006.
[10]. Treves F. Richter's hernia or partial enterocele. Med Chir Tr 1887; 17: 149–167. [PMC free article][PubMed]
[11]. Udofot SU. Multiple fecal and urinary fistulae as a complication of native treatment of inguinal hernia. Trop Geogr Med 1990; 43: 105. [PubMed]
[12]. Fückiger R, Huber A. Die Richter'sche Hernie. Der Chirurg 1993; 64: 822–826. [PubMed]
[13]. Limjoco UR, Grubbs JM, Thomas MD. Richter's hernia with bowel perforation. Am Fam Physician 1998; 58: 352–354. [PubMed]