

Case study

Primary Supravesical hernia presented as direct inguinal hernia with an unusual internal opening –A case report.

ABSTRACT

Introduction: Supravesical hernia (SVH) or paravesical hernia is a rare condition and it is believed to be caused due to Weakness between the transversus abdominis aponeurosis and the transversalis fascia. They are mainly acquired and usually associated with inguinal hernia. The external and the internal variety of SVH is commonly presented as direct inguinal hernia and intestinal obstruction or undiagnosed abdominal pain respectively. **Case report:** A 40 yr old male was posted for TransAbdominal PrePeritoneal(TAPP) hernia repair for direct inguinal hernia. Intraoperatively we diagnosed him as supravesical hernia with an unusual internal opening over the medial umbilical ligament. **Discussion:** SVH is a rare variety of pelvic hernia which protrudes through Supra Vesical or Paravesical Fossa(SVF). SVF is an area above the urinary bladder between the median umbilical ligament and medial umbilical ligament. CT/MRI sometimes help in obtaining the diagnosis but mainly it was made intraoperatively. Simple closure of the internal opening is sufficed for treating this form of hernia. **Conclusion:** Preoperative diagnosis of SVH is difficult to establish. CT/MRI can sometime diagnose internal SVH but in majority of the cases diagnosis was made intraoperatively. Whenever we are dealing with direct inguinal hernia we should be aware of the possibility of this rare form of hernia especially if there is any difference in anatomical relation during surgery.

Keywords: Supravesical fossa, Supravesical hernia, medial inguinal fossa, intestinal obstruction.

1. INTRODUCTION

Supravesical fossa (SFV) is the area between the median and medial umbilical ligaments [1] and hernia developed from this fossa are termed as Supravesical hernia (SVH) or paravesical hernia [2]. It is a rare condition and Sir Astley Cooper reported the first case of Supravesical hernia in 1804[1]. They can be classified as external and internal variety [1]. Preoperative Diagnosis is difficult [3] and the external and internal variety is usually presented as direct inguinal hernia and intestinal obstruction or undiagnosed abdominal pain respectively[1,2]. Here we present a case of primary supravesical hernia with an unusual internal opening presenting as direct inguinal hernia.

2. CASE REPORT

40yr old male came to my outpatient clinic with complaints of swelling over the right groin for 4 months and pain around the anal verge for 5 days. Swelling over the groin was associated with pain over right lower abdomen and it disappears on lying down. Patient gave history of occasional constipation and chronic smoking for 28 years. Patient didn't give any history of chronic cough, difficulty in passing urine and bleeding per rectum. There was no history of any surgical intervention or trauma in the past. Physical examination revealed a 4 cm soft oval swelling above the inguinal ligament. The swelling was reducible and positive for cough impulse test. During Ring occlusion test the swelling became prominent over the superficial inguinal ring region. Congested external hemorrhoids seen at 3 o'clock position on Perianal examination, which was firm and tender. Apart from the usual preoperative investigation we routinely don't advice any radiological investigation especially for

uncomplicated inguinal hernia. Patient opted surgery on a later date hence conservative management was started for the congested external haemorrhoid. After 2 weeks patient was posted for **TransAbdominal PrePeritoneal (TAPP)** hernia repair with a diagnosis of direct inguinal hernia. After creating pneumoperitoneum small bulge was seen over the superficial inguinal ring area. Intraoperative findings were as follows: bilateral normal deep ring and no herniation at the Hesselbach's triangle. Bladder area appears normal. **We followed the usual step of TAPP in this case. We refashioned 15 × 15 polypropylene mesh into 12 × 15 cm size. We used one or two absorbable tackers each to fix the mesh with cooper's ligament, medial border of rectus muscle, medial and lateral space to epigastric vessels. Post operative hospital stay was uneventful. Patient was on regular follow up for his associated hemorrhoid problem and till his recent follow up that is 2 years post surgery there was no evidence of recurrence and no other complications associated with laparoscopic hernia surgery.**

3. DISCUSSION

SVH though rare is one of the common varieties of pelvic hernia which protrudes through Supra Vesical or Paravesical Fossa (SVF) [4]. SVF is an area between the right and left medial umbilical ligaments (above and laterally) and bounded inferiorly by peritoneal reflection from the abdominal wall to the dome of the urinary bladder [2]. The urachus divides the fossa into the right and the left SVF [3].

Weakness between the transversus abdominis aponeurosis and the transversalis fascia can be the cause of SVH [2]. Primary SVH are very rare compare to

secondary SVH [5], which are mostly acquired and usually associated with inguinal hernia or followed by surgery [3].

There are two variant of SVH: the external variety which occurs in the superior portion of the SFV is due to the laxity of the vesical preperitoneal tissues whereas the internal type extends into the space of Retzius [1, 2]. The internal variety was classified by Skandalakis as anterior, lateral or posterior SVH based on the relationship of the hernia sac to the bladder [2]. Posterior PVH is the rarest among these three varieties [5].

The external variety usually present as direct inguinal hernia whereas internal variety of SVH present either with intestinal obstruction or as undiagnosed abdominal pain [1, 2]. As direct inguinal hernia is a clinical diagnosis we do not advice radiological investigation in all the cases. Preoperative diagnosis of SVH is difficult to establish [1]. CT/MRI can sometime suggest internal SVH by showing herniated small bowel loops near the urinary bladder with distorted bladder wall [3].

After reviewing the literature we came across various suggestions like CT/MRI scan, Diagnostic laparoscopy, Cystoscopy and Herniography to establish the diagnosis but SVH is mainly diagnosed intraoperatively in most of the circumstances [6].

Sozen et al operated a patient for direct inguinal hernia with conventional inguinal approach. Intraoperatively it was found out to be an external variety of SVH. The same patient was readmitted after 8 hours with features of intestinal obstruction. Exploratory laparotomy revealed a concomitant internal SVH as the cause of intestinal obstruction [7].

Simple closure of the hernia with continuous or interrupted non absorbable stitches is sufficient without excision of the hernia sec [8, 9]. Exploratory

laparotomy and laparoscopic techniques are both mentioned in the literature as the treatment approach³. In 2016 Lee and Choi reported one of the largest case series on SVH and its management with TAPP approached. They repaired all cases with TAPP approach using smaller size mesh and intracorporeal suturing of the defect [10]. In our case due to patient's history of chronic smoking and constipation along with weakness of the parietal wall over the inguinal region we decided to go ahead with the TAPP with usual size mesh.

4. CONCLUSION

Only one case of SCH with internal opening over the medial umbilical fold has been reported so far [11] and this rarity makes our case unique. The main concern of SVH is the preoperative diagnosis. If we know the diagnosis preoperatively SVH can be managed by conventional open or laparoscopic approach. Only hitch is that the Conventional open approach or TEP might miss the diagnosis. In conclusion whenever we deal with direct inguinal hernia we should be aware of the possibility of this rare form of hernia specially if there is any difference in anatomical relation during surgery.

Disclaimer regarding Consent and Ethical Approval:

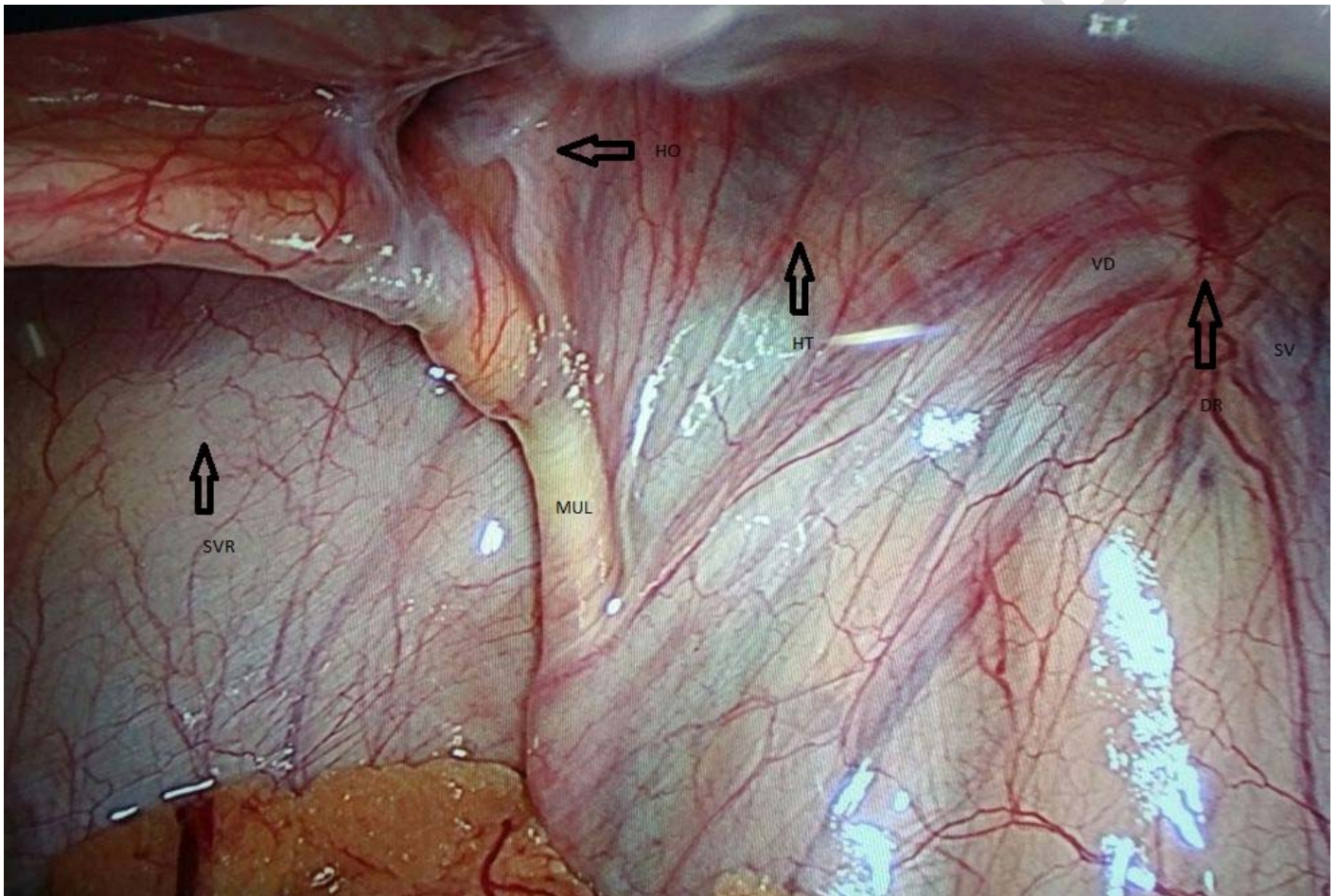
As per university standard guideline participant consent and ethical approval has been collected and preserved by the authors.

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APPENDIX



LEGENDS:

Fig1 Intraoperative picture showing abnormal site of hernia orifice (HO). SVR- Supravascular region, MUL- Medial Umbilical Ligament, HT- Hesselbach's triangle, DR- Deep ring, VD- Vas Deferens and SV-Spermatic Vessels.