

## Hernia EN-Glissade of Urinary Bladder Presenting As Surgical Emergency; a Case Report

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### ABSTRACT:

A 54 years old male presented to emergency with strangulated right sided inguinoscrotal hernia with history of acute pain for previous 8 hours with high lactic acid. An ultrasound of swelling done showed presence of bowel. Patient was resuscitated and was immediately taken to operation theatre for suspected ischemic bowel and was found to have hernia en-glissade containing urinary bladder with very narrow external ring causing strangulation and lax posterior inguinal canal wall. External ring opened and contents released, no ischemia identified, Sac opened and bowel rum as well to rule out ischemic bowel and was found healthy. Post operatively patient did well and was discharged on 4<sup>th</sup> postoperative day and thereafter follow up was unremarkable.

**Key Words;** Incarcerated inguinal hernia, Inguinal swelling, Hernia en-glissade.

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### INTRODUCTION;

Sliding hernia also called hernia en-glissade occurs because of slipping of parietal peritoneum because of redundant mesentery<sup>i</sup>. Presence of urinary bladder as a content of inguinal hernia sac is reported in the range of 1-5%<sup>ii</sup>. The seldom present with strangulation and very few cases are reported in literature. Most of these cases are diagnosed intraoperatively and many of the patients do not present with associated urinary<sup>iii</sup>. They are managed surgically. Open and laparoscopic repairs both are valid options.

Surgent should be vigilant regarding possibility of associated urinary bladder damage during repair which should be identified and resolved during surgery<sup>iv</sup>

### CASE REPORT;

A 54 years old previously healthy male with history of right sided inguinal hernia since two years presented to emergency to emergency with sudden onset of sever inguinal pain followed by irreducible swelling since 8 hrs. . Patient was known to have reduceable right sided inguinal hernia for which he was advised operation in

another hospital a year ago but patient did not go for it as it was not bothering him. He did not give history of any associated urinary or bowel symptoms. At the time of presentation he was slightly tachycardic with a pulse rate of 105 beats/minutes, was afebrile and was maintaining blood pressure. His biochemical work up showed white cell count of  $14 \times 10^3/\mu\text{L}$  and CRP of 40 mg/L with lactic acid of 6 mmol/L. He was severely tender at inguinal region with huge tense inguinoscrotal swelling however, there were no redness at skin, auscultation of area was silent and a bed side ultrasound showed bowel loops with no peristalsis. Because of tachycardia, high white cell count and serum lactate with history of 8 hrs of sudden onset of pain and ultrasound finding of presence of aperistaltic bowel loops patient was immediately taken to operation theatre with ongoing resuscitation for the fear of bowel ischemia. He was catheterized pre-operatively and was making clear urine.

On opening the inguinal canal huge inguinoscrotal hernial sac was found to be strangulated at external ring, hernial sac completely delivered from scrotum and traced till posterior wall and was found to be direct inguinal hernia containing some hemorrhagic fluid with fat and glistening structure. Cord and cord contents were separated from the sac and traced till deep inguinal ring to identify concomitant indirect hernia. Sac was opened and hemorrhagic fluid aspirated and it was found to be a sliding urinary bladder. Sac opened near posterior wall and small bowel traced to look for any slipped ischemic small bowel but bowel was found healthy. Contents reduced back and since posterior wall was very weak and lax repair was done by approximating conjoint tendon with inguinal ligament with interrupted PDS 2/0 stitches and then mesh applied and closure done in layers. Subcutaneous drain was placed and patient was shifted to ward with Foley's catheter.

His post-operative course was unremarkable. He was referred to urology team as well post-operatively and was found to have normal urine chemistry, ultrasound and flowmetry. Drain was taken out on 3<sup>rd</sup> post-operative day along with

Foley's catheter and patient was discharged home on 4<sup>th</sup> post-operative day while he was hemodynamically stable, on regular diet and normal bowel and urinary functions. He was seen in surgical clinic after 2 weeks post-operatively and was doing

## DISCUSSION;

Hernia en-glissade is an inguinal hernia that has an element of descent (slide) of abdominal structures alongside the sac<sup>v</sup>.

Hernia en-glissade containing urinary bladder also known as scrotal cystocele is a rare entity and is usually diagnosed intraoperatively or either incidentally on imaging. It is difficult to diagnose pre-operatively and is associated with increased risk of bladder injury during hernia repair which is reported as high as 12% in some series. Strangulation at presentation is even more rare<sup>vi</sup>. The pathophysiology behind sliding hernia containing urinary bladder is attributed to urinary bladder outlet obstruction, obesity, weak pelvic floor muscles and due to chronic outlet tract obstruction and chronic retention of urinary bladder if associated with weak posterior inguinal wall bladder slides through inguinal<sup>vii</sup>

In general, urinary bladder hernia is classified into three groups according to the relationship between the parietal peritoneum and the protruded portion of the urinary bladder<sup>viii</sup>;

1. Para peritoneal; most frequent type of bladder herniation where bladder is extraperitoneal and is medial to peritoneal herniation.
2. Intra-peritoneal; this is the second most common type, where bladder is completely covered with peritoneum in the hernia sac.
3. Extraperitoneal; the rare form where bladder herniates alone and the peritoneum stays in the abdomen. In our case it was extraperitoneal portion of the bladder that was sliding as was evident by typical extra peritoneal fat and the evidence that while posterior wall was opened to look for bowel it was found anterior fully covered with peritoneum. We opened posterior wall near distal end of sac to inspect bowel as lactate was

high and pre-op ultrasound showed bowel in sac but another option would have been the use of laparoscope through hernia sac opening.

Massive scrotal hernias are associated with ureteric descent and obstruction leading to hydronephrosis and warrant urgent surgical repair<sup>ix</sup>.

Patient with massive hernias usually present with symptoms of bladder out let obstruction but it was not seen in our patient. Our patient was having small hernia before presentation which was reducible and it suddenly increased in size on day of presentation 8 hrs before presentation, what led bladder to suddenly slide is unclear from the history. Our patient denied any urinary symptoms and post op evaluation by urology team was unremarkable as well.

In elective cases pre-operative investigation with ultrasound, Ct scan and cystography can help to delineate the anatomy preoperatively and can reduce the risk for bladder injury but in emergency cases and cases diagnosed intraoperatively surgeon has to take great care not to injure the bladder once its found as chances of bladder injury are high.

Repair can be done open or laparoscopic depending on surgeon's expertise and preference and patient's condition. Most important part of surgery is clear identification of each and every content of hernial sac and prevention of iatrogenic bladder injury. In case where huge urinary bladder is incorporated with evidence of necrosis of bladder, bladder tumor or diverticula of bladder, resection of involved part of bladder is indicated. Injury to bladder is common specially if bladder as part of hernial sac is not identified pre-operatively and incidence is reported even up to 12 %<sup>x</sup>.

In case of hernia repair where condition is diagnosed per- operatively, postoperative urological causes should be evaluated and sorted , it is also found some times to be associated with bladder malignancy and some institutes recommend cystoscopy as part of work up as well . Our patient was found to have bladder in hernial

sac during surgery and post-operative urological evaluation was normal .

## **CONCLUSION;**

The incidence of inguinal hernias containing urinary bladder ranges between 1-4%<sup>iv</sup> .

In elective cases it should be suspected in patients with obesity, age more than 50 years and urological symptoms. If suspected pre operatively evaluation with proper radiological studies should be done and urologist should be involved for evaluation and management of urological conditions . During surgery meticulous attention should be given to prevent inadvertent bladder injury. In cases where it is discovered intra operatively, chances of bladder injury are as high as 12 %<sup>v</sup> post-operative urological evaluation is mandatory in such cases.

## **LIST OF ABBREVIATION**

None

## **ETHICS APPROVAL AND CONSENT TO PARTICIPATE**

This study has been approved by the Research Ethics Board of McGill University Health Centre in Canada with the approval number 12-300 GEN.

## **HUMAN AND ANIMAL RIGHTS**

No animals were involved for studies that are the basis of this research. All the humans used were in accordance with the Research Ethics Board of McGill University Health Centre in Canada and with the Helsinki Declaration of 1975 as revised in 2013.

## **CONSENT FOR PUBLICATION**

Not applicable.

## **STANDARDS OF REPORTING**

CARE guidelines were followed.

## **AVAILABILITY OF DATA AND MATERIALS**

Not applicable.

## **FUNDING**

None.

## **CONFLICT OF INTEREST**

None

## **ACKNOWLEDGEMENTS**

Declared none.

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