Laparoscopic repair of an incarcerated femoral hernia

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1. Introduction

A femoral hernia while a rare occurrence can be problematic as they often present with symptoms of incarceration or strangulation. It is more common in females and the type of repair can be controversial. While open surgery remains the standard of care, laparoscopic surgery has lower recurrence rates and post operative pain (Fig. 1). This type of repair however has a steep learning curve and still presents a challenge for surgeons.

2. Case report

A 45 year old female presented with right groin pain of one month duration. There was no history of trauma. Past history: Open right inguinal herniorrhaphy three years previously. Clinical exam revealed a swelling in the right groin below the inguinal ligament (Fig. 2). The swelling could not be completely reduced. There was no erythema or fluctuance around the swelling. The rest of the abdomen...
inal examination was uneventful. The patient was well systemically (Fig. 3). Ultrasound of the pelvis showed a recurrent inguinal hernia or a differential diagnosis of a femoral hernia on the right side (Fig. 4). The patient was operated upon laparoscopically as she had...
a previous open repair. She had a trans abdominal pre-peritoneal (TAPP) mesh repair. Her post operative recovery was uneventful and she was discharged home on post operative day one (Fig. 5).

### 3. Discussion

Femoral hernias are relatively uncommon (Fig. 6). They account for less than 5% of all hernias. Femoral hernias occur just below the inguinal ligament, when abdominal contents pass through a naturally occurring weakness called the femoral canal. They are more common in females because of the wider bone structure of the female pelvis by a ratio of 4:1 (female:male) [1]. Femoral hernias are more common in multiparous females as compared to non-parous females (Fig. 7). Approximately 60% of femoral hernias are found on the right, 30% on the left, and 10% bilaterally [2]. An enlarged femoral ring is thought to be the cause of the femoral hernia [7]. The lacuna vasorum increases in size as a person ages and is thought to be the reason for the increased incidence in the elderly [8]. Three approaches have been described for open surgery: Lockwood’s infra-inguinal approach, Lotheissen’s trans-inguinal approach and McEvedy’s high approach (Fig. 8). The infra-inguinal approach is the chosen method for elective repair while McEvedy’s approach is preferred in the emergency setting when strangulation is suspected as this approach allows better access for visualisation of bowel and possible resection if needed [3]. Laparoscopic repair involves the extraperitoneal (TEPP) or transabdominal preperitoneal (TAPP) approach (Fig. 9).

While there is good evidence for this method of repair it is still not the standard of care. This is in part due to the abnormally steep learning curve for surgeons (Fig. 10). It involves more time and specialised laparoscopic skills. The advantages are a lower recurrence rate and post operative pain [3,5]. Once the learning curve has been breached this repair is eminently feasible as evidenced by the repair of this patient’s hernia in a rural hospital in Saskatchewan, Canada by a surgeon with no formal training in minimally invasive surgery.

### Conflict of interests

Not applicable.

### Funding

No funding.
Consent

I have consent from the patient. I submitted the incorrect form previously. That form was for another case report already published.

Research registry UIN is 554.

Author contribution

Yagan Pillay—only author.

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References

[1] R.T. Kochupapy, G. Ranganathan, S. Dias, D. Shanahan, R. Ann, Coll. Surg. Engl. 95 (2013) e14–e16.
[2] A. Mahajan, A. Luther, Incarcerated femoral hernia in male: a rare case report, Int. Surg. J. 1 (2014) 25–26.
[3] N. Stolkes, E. Mangiante, G. Voeller, Laparoscopic repair of a man with massive bilateral femoral hernias, Am. Surg. 75 (2009) 1189–1192.
[5] R.C. Read, Crucial steps in the evolution of the preperitoneal approaches to the groin: an historical review, Hernia 15 (1) (2011) 1–5.
[6] George A. Sarosi Jr., Kfir Ben-David, Laparoscopic inguinal and femoral hernia repair in adults, in: T. Post (Ed.), UptoDate, UptoDate, Waltham, MA, 2015 (Reference for Figure 5).
[7] C.B. McVay, L.E. Savage, Etiology of femoral hernia, Ann. Surg. 154 (1961) 25–32.
[8] T. Hachisu, Femoral hernia repair, Surg. Clin. North. Am. 83 (2003) 1189–1205.