

Management of Sciatic Hernia as a Unique Cause of Hip Pain: Laparoscopic Transabdominal Preperitoneal (TAPP) Repair with LiquiBand® FIX8™ Anchoring Technique

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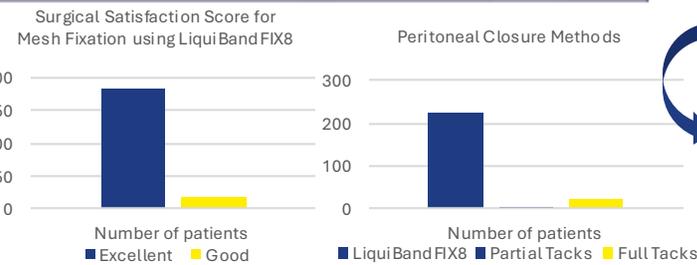
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Introduction Sciatic hernias, the rarest type of pelvic floor hernia^{1,2}, are often misdiagnosed due to variable symptoms. Hernial contents can include ovaries, ureter, or small bowel³. Contributing factors include advancing age, multiparity, and female sex^{1,2}. Optimal management remains debated due to limited case reports. We present a rare case of sciatic hernia causing hip pain, successfully treated with laparoscopic transabdominal preperitoneal (TAPP) mesh repair utilising LiquiBand® FIX8™, a minimally invasive and effective fixation method.

The Case An 84-year-old female presented with sudden right lower abdominal pain radiating to her hip, preventing weight bearing. Examination revealed mild abdominal tenderness and severe tenderness over right lateral thigh with limited hip rotation. CTAP showed mild hip joint effusion. MRI identified right sciatic hernia with loop of non-obstructed bowel (Figure 1). She was referred for elective laparoscopic repair. Her NELA was 3.16%, and ASA grade III.

LiquiBand® FIX8™ 4,5

- Utilises n-butyl-2-cyanoacrylate (nBCA) adhesive
- Rapid polymerisation on contact with water (5-10 secs), forming strong butyl ester bonds
- Features a 5mm delivery system with trigger mechanism for controlled application
- Delivers ~0.01ml of anchor solution per trigger
- Each device provides ~45 anchors



Graph 1 Illustrating (left) surgical satisfaction scores for mesh fixation with LiquiBand FIX8, and (right) peritoneal closure methods used in repair from Wilson et al. study⁴.

Discussion The anatomical location of a sciatic hernia, closely situated near vulnerable structure, as shown in Figure 1, necessitates careful consideration when selecting methods for mesh fixation and peritoneal closure. As demonstrated in this case and supported by existing literature, LiquiBand® FIX8™ offers a promising option for both. The graphs above, adapted from a clinical study by Wilson et al. underscore the devices efficacy. In this surgical case, immediate post-operative period was uneventful. A follow-up CTAP after one month showed no recurrence, and the patient's hip pain had resolved. As of five months post-operatively, the patient is symptom free.

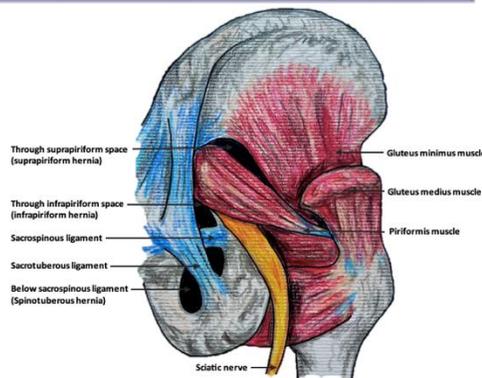


Figure 1 Diagram detailing anatomic locations of the three types of sciatic hernia

Surgical Technique

Preparation

- General anaesthesia
- Patient placed in supine position
- 10mm infraumbilical port (camera)
- 5mm ports: suprapubic, midpoint suprapubic and camera, left loin

Hernia Repair and Fixation

- Mesh and peritoneal flap secured with LiquiBand® FIX8™
- Peritoneum closed over mesh
- Ports removed under vision
- Surgicel™ applied to port sites to minimise post-op bleeding

Closure

- Sciatic hernia sac dissected and preperitoneal space created
- 15x10 cm Parietex™ mesh (Medtronic) halved
- One half used as plug; the other half as overlay

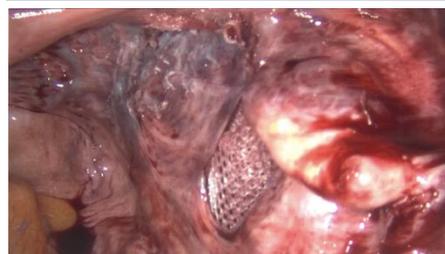


Figure 2 Intraoperative photograph demonstrating mesh repair with anchoring using LiquiBand® FIX8™

References

- Van Hoef, et al (2021) 'Sciatic hernia: Repair after recurrence', *BMJ Case Reports*, 14(4).
- Losanoff, J.E. et al (2010) 'Sciatic hernia: A comprehensive review of the world literature (1900-2008)', *The American Journal of Surgery*, 199(1)
- Chen, Y.-C. (2015) 'Sciatic hernia with incarcerated urinary bladder: Laparoscopic transabdominal extraperitoneal repair with a mesh plug', *Formosan Journal of Surgery*, 48(2)
- Wilson, P. et al (2018) 'Laparoscopic transabdominal preperitoneal (TAPP) groin hernia repair using n-butyl-2-cyanoacrylate (LiquiBand® FIX8™) for mesh fixation and peritoneal closure: Learning experience during introduction into clinical practice', *Hernia*, 23(3)
- Kukleta, J.F. et al (2011) 'Efficiency and safety of mesh fixation in laparoscopic inguinal hernia repair using n-butyl cyanoacrylate: Long-term biocompatibility in over 1,300 mesh fixations', *Hernia*, 16(2)
- Dausser, B. et al (2016) 'A novel glue device for fixation of mesh and peritoneal closure during laparoscopic inguinal hernia repair: Short- and medium-term results', *European Surgery*, 49(1)

Positives

- Avoids damage to tissues⁴
- Effective for fixation and closure⁵
- Broader anchoring, more complete peritoneal seal^{5,6}
- Shortens intraoperative time⁵

Improvements

- Clogging of device tip⁶
- "Wet peritoneum" – swabs may be needed to dry peritoneum to fixate⁵
- "Heavy peritoneum" - excess fatty tissue of lower peritoneal flap limits fixation⁵