Laparoscopic lumbar hernia: A case report and literature review

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Received date: 05/7/2023
Accepted date: 11/8/2023
Published date: 15/9/2023

Abstract

Introduction: Lumbar hernia, also known as lumbar triangle hernia, is a rare type of abdominal wall hernia in clinical practice, so it is difficult to diagnose because it is rarely thought of. The treatment is mainly based on surgery. Open surgery to close the abdominal wall cleft was a classical treatment in the past. Laparoscopic surgery has the potential to substitute open surgery.

Case presentation: In this article, we reported a 71-year-old man with a hernia of the upper lumbar triangle undergoing laparoscopic surgery at Viet Duc University Hospital in April 2023. After the surgery, the patient recovered well. There were no postoperative complications as well as recurrence recorded.

Conclusion: Lumbar hernia is a rare condition often challenging to diagnose clinically because it is not considered. Surgical treatment is preferred and gives good results. Laparoscopic surgery with mesh repair to reduce the disadvantages of open surgery.

Keywords: Lumbar Hernia, lumbar triangle hernia, laparoscopy

Introduction

Louis Petit firstly described a lumbar hernia in 1783 and named it after him. Satish reported that there were approximately 300 cases worldwide, but there are few documents that report the prevalence of the disease in the community [1]. A 73-year-old case of a triangular hernia was reported by Pham Trung Vy in Vietnam in 2021. The upper lumbar region was surgically opened, and the neck was sutured with an artificial mesh, and the patient was discharged after a week without any complications [2].

The viscera escapes to the posterior abdominal wall through the lumbar hernia through the gap between the muscle-skeletal layers. This cleft could be a result of an anatomical defect or trauma. The two most common lumbar hernias are hernias by the upper lumbar triangle (Grynfelt-Lesshaft) and hernias by the lower lumbar triangle (Jean - Louis - Petit) (Figure 1).

Case presentation

Patient Tran Van L, a 71-year-old male, was examined and operated on in April 2023 in the Department for On-demand Services, Viet Duc University Hospital. The right lumbar region had been experiencing pain and swelling for about a year, causing admission. The mass changes in size when the patient moves around a lot, sometimes when

the mass is painful and accompanied by abdominal pain. The patient underwent an open appendectomy many years ago, but no abdominal or lumbar trauma history existed. An abdominal tumor was diagnosed during an examination conducted at various lower-level clinics. Clinical examination showed a right lumbar mass of 3 x 6 cm, pain and tenderness, and no clear neck. The hematologic biochemical tests were in the normal ranges.

Para-clinically, the ultrasound shows a herniated abdominal wall in the same area. The neck diameter is 22 mm, and the herniated visceral content is the momentum.

CT scans of the urinary system showed an enlarged prostate of 69 grams, a small cyst in the left kidney, and other organs were nothing special. (Figure 2).

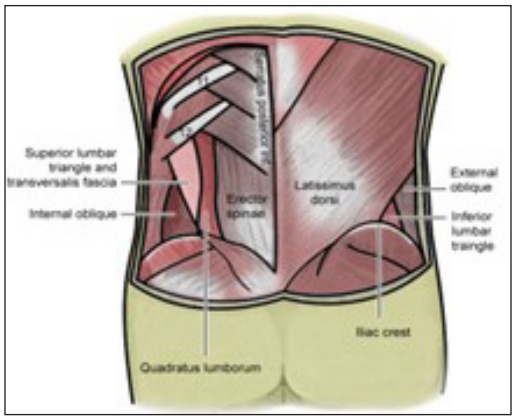

Figure 1: Atlas of lumbar hernia Anatomy [4]

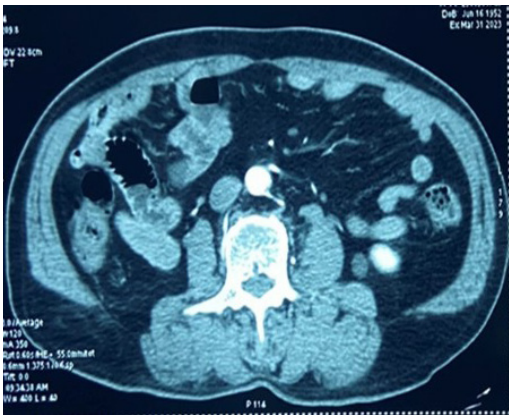

Figure 2: CT scan of the abdomen shows the lumbar hernia

The patient underwent laparoscopic surgery in the right lateral position through the peritoneum. Exploration of the peritoneal cavity with loose adhesions after previous surgery. Conduct disassembly to check and detect the herniated neck, corresponding to the position of the lower lumbar triangle Jean - Louis - Patit. The diameter of the neck is about 2.5 cm, the hernia content includes greater momentum, and the colonic fat mane goes up.

Dispose of the herniated viscera, close the neck of the capsule, install an artificial mesh 6 x 11 cm behind the peritoneum, and suture the peritoneum. The postoperative period was stable, and he was re-examined after four weeks of complete recovery without any complications.

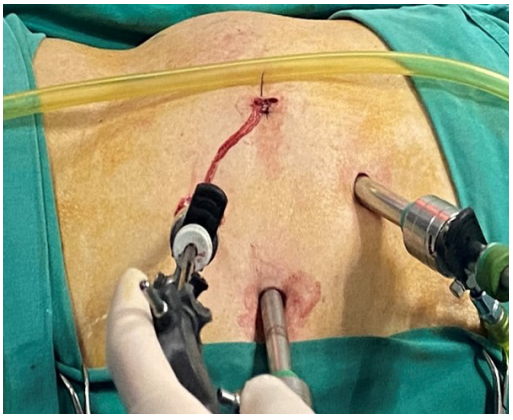

Figure 3: Trocar sites

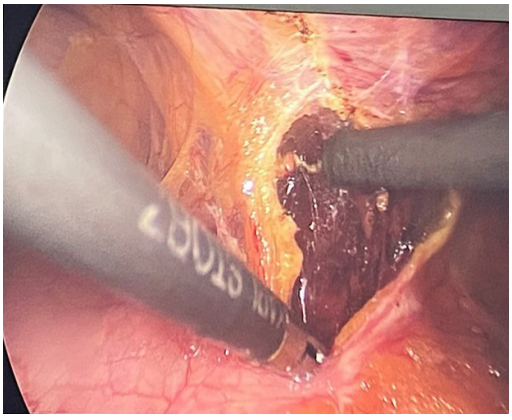

Figure 4: Dissection of adhesions due to previous surgery

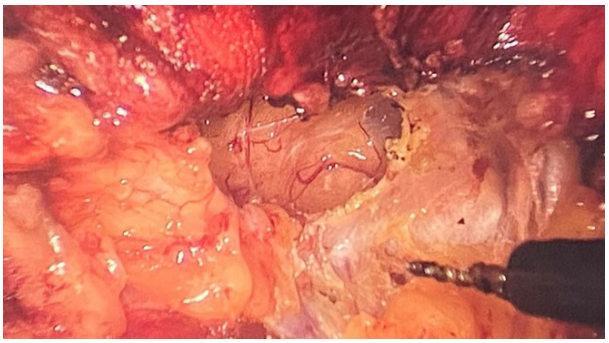

Figure 5: Exposure of hernia sac

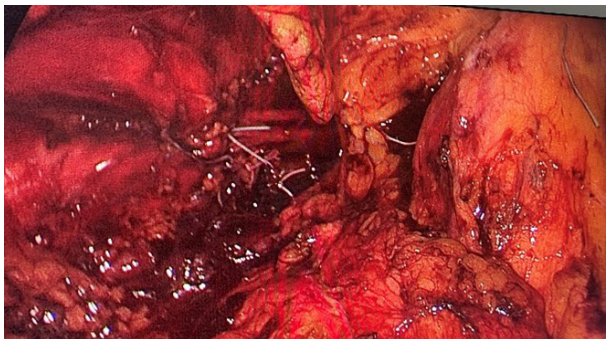

Figure 6: Closure of abdominal defect by sutures

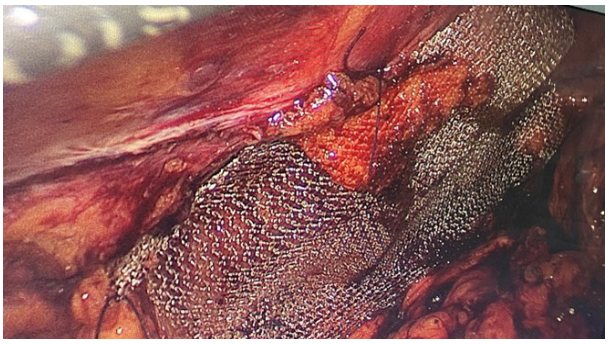

Figure 7: Mesh deployment and fixation by suture

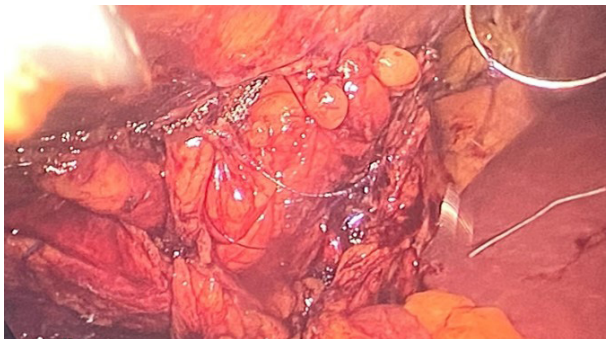

Figure 8: Suture covering the peritoneum

Discussion

Lumbar hernia is a sporadic disease, and there are very few statistics worldwide. Most recently, in 2008 Satish recorded 300 [1]. In Vietnam in 2016, Nguyen Tuan Anh and Le Huy Luu presented the first case of a 64-year-old female patient with an upper lumbar triangle hernia, which was treated successfully at Gia Dinh People's Hospital [5]. Lumbar hernia can be congenital or acquired. Congenital due to anatomical defects of the abdominal wall, mainly found in the lower lumbar triangle Jean - Louis - Petit, accounting for about 10-20%. Hernias acquired after trauma or surgery account for 80-90%, usually in the superior Grynfeltt-Lesshaft triangle. [6]

Symptoms of lumbar hernia are usually a bulging mass that is heavy in the lower back and increases with exertion. There is pain and distention in the abdomen when the herniated viscera is the colon, as in our [7]. The high specificity of ultrasound and CT scan imaging allows for the diagnosis of disease, differential diagnosis with abdominal wall tumors or corresponding regional organs, post-traumatic hematoma, and pressure abdominal wall car... They also help to guide the appropriate surgical procedure. With certain lower back mass formations, varying in size with posture changes and abdominal pressure, accompanied by localized pain, the physician should consider the possibility of lumbar herniation and perform abdominal computed tomography scans for diagnosis. Surgical treatment to redo the abdominal wall is a priority because the technique is not too difficult. The surgical time is not long, and there are few complications. During surgery, it is necessary to dissect the viscera, remove the hernia capsules, and close the neck of the capsules. Indications for placing an artificial mesh surgery give good results [3]. In the contemporary medical landscape, minimally invasive surgery has been applied across a spectrum of significant surgical procedures, encompassing abdominal hernias as

a specific example. Utilizing minimally invasive surgery to address this hernia is firmly grounded.

Decided to opt for laparoscopic surgery over open surgery in the case of a 71-year-old man with an upper lumbar triangle hernia presents a crucial consideration. Laparoscopic surgery has garnered preference due to its minimally invasive nature, which offers several advantages over open surgery. This includes reduced postoperative pain, shorter hospital stays, and quicker recovery times. Additionally, the laparoscopic approach provides enhanced visualization of the surgical site, allowing for meticulous placement of a mesh to reinforce the abdominal wall, a factor vital in hernia repair.

Conversely, open surgery involves larger incisions and more significant tissue disruption, potentially leading to more postoperative pain and an extended recovery. In cases of lumbar hernia, where the herniated tissue protrudes through the lumbar triangle, the laparoscopic technique's precision in mesh placement proves advantageous. Furthermore, it mitigates the risk of weakening the abdominal wall, a common concern in open surgery.

For future patients with lumbar hernia, the adoption of laparoscopic surgery could be recommended due to its potential benefits. However, individual patient factors, such as overall health, surgical history, and hernia size, should be considered in making the final decision.

Regarding hypotheses for further study, this case study might stimulate research into the long-term outcomes of laparoscopic versus open surgery in lumbar hernia cases. A comparative study could investigate factors like recurrence rates, postoperative pain, and overall quality of life. Additionally, exploring patient selection criteria for either surgical approach could shed light on optimizing treatment choices.

The preference for laparoscopic surgery in the reported lumbar hernia case stems from its minimally invasive advantages and precise mesh placement capabilities. Future patients might benefit from this approach, though individual considerations are paramount. This study could inspire research into the broader outcomes of different surgical methods for lumbar hernias and potential patient selection criteria, thereby contributing to enhanced clinical decision-making in the field.

Conclusions

Lumbar hernia is a rare condition that is often difficult to diagnose clinically due to its rarity and non-specific symptoms. The most effective way to achieve good results is through surgical treatment. Laparoscopic mesh repair reduces the disadvantages of open surgery.

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