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INTRODUCTION

Incisional hernias are a common postoperative complication, occurring in approximately 20–30% of patients following abdominal surgery. These hernias may be brought on by factors such as wound infection, obesity, diabetes, immunosuppression, and poor nutritional status. It was reported that there is a higher prevalence in males who are ages 65–69 years old. Although there have been advances in surgical technique and mesh repair, the incidence and health-care burden have remained substantial worldwide. This case series highlights the pathological development and management outcomes of patients with incisional hernias. Additionally, lumbar hernias may be congenital or acquired, with the latter frequently arising after trauma, infection, or surgical interventions that involve retroperitoneal or flank incisions. Furthermore, early recognition is crucial because untreated lumbar hernias carry a risk of incarceration and strangulation. Hence, this case series highlights the pathological development and management outcomes of patients with incisional and lumbar hernias.



Figure 1



Figure 3

Figures 1 and 2 represent images from the spinal x-ray.



Figure 3



Figure 4

References

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CASE PRESENTATION 1

A 75-year-old female with a past medical history of hypertension, hyperlipidemia, osteoarthritis, and surgical history significant for C-sections 4 was seen in clinic for a right flank hernia that was first noticed around 2 years ago. A week and a half prior, the patient had presented to the clinic for acute abdominal pain, with further workup which included CTAP stating a 3.6 cm defect in the right lateral abdominal wall fascial/interal oblique musculature containing non-obstructed segment of herniated ascending colon with the external oblique musculature seen to contain this herniation without associated obstruction and prominent fecal burden throughout the large bowel. There was no incision at the site of the lumbar hernia. During the clinic visit, the patient stated that the hernias have been slowly increasing in size but have not caused any pain and are just bothersome. Soon after, the patient presented to A&MCU with symptoms similar to those during the clinic visit. She was then taken into the operating room to repair her hernia. An incision was made at the right flank, where it was noted that her hernia was reduced. The external oblique muscle was used to create a plane for dissection. The plane was dissected on the superior portion to the level of the costal margin. The medial part of the plane was dissected 5 cm medial to the hernia defect. The lateral portion was dissected 5 cm inferior to the hernia defect, above the level of the crest. No peritoneal defect was noted, and the intraperitoneal cavity was not entered during the dissection. There was laxity in the fascia at the suspected hernia site which was reinforced by the mesh. The mesh was first secured at the superior site. The mesh was then secured to the inferior portion just inferior to the costal margin. The medial and lateral parts of the mesh was secured using a sutureback tackler with pressure. The wound was cleansed and irrigated before closing. To control post op pain, an epidural local anesthetic was injected. There were no surgical complications. On post operative day 1, the patient reported to be doing well with well-controlled pain and tolerating diet without any issues.

CASE PRESENTATION 2

A 52-year-old female with a past medical history of nephrectomy presented to the emergency department complaining of dysuria, frequent urination, back pain, and abdominal pain for a week too. The patient endorsed chills and nausea. She was in the emergency department a week ago with the same complaints. During that visit she had blood work, urinalysis and a CT. She was diagnosed with a UTI and sent home on Keflex. The patient was taking Keflex 4 times a day for the last 7 days, but the symptoms continued to persist. She stated that the symptoms are worse than before, and she has not developed any new symptoms. The patient was afebrile, had normal sinus rhythm, normal blood pressure, and breathing well on room air. Vital signs were: temperature 98.7 F, heart rate 76 bpm, blood pressure 100/68, respiratory rate 21, and saturating at 95%. Upon physical exam, the patient was in mild distress. Lungs were clear to auscultation bilaterally with normal breath sounds and no use of accessory respiratory muscles. Heart was of regular rate and rhythm. Abdomen was soft, nontender and tender to palpation. There was no guarding, rebound tenderness or rigidity. CVA tenderness was present. A chest X-ray was ordered and is seen in Figure 3 and 4. The patient was scheduled for surgery. During the surgery, the external oblique muscle was incised to create a plane for dissection. The plane was dissected on the superior portion to the level of the costal margin. The medial portion was dissected about 3 cm lateral to the hernia defect. The plane was also dissected inferiorly at about 3 cm to the hernia defect above the iliac crest. Because of a prior incision, there was scar tissue, making it difficult for the planes to be established. After all the planes were dissected and hemostasis was achieved, a Prolene mesh was inserted into the plane beneath the muscle layer and trimmed just inferior to the costal margin. After securing the Prolene mesh in place and trimming to its appropriate size, the mesh was noted to be lying flat in the muscle plane. The incision was closed, the wound was cleansed, and Dermabond was applied. The patient was extubated and noted to be recovering well after the procedure.

DISCUSSION

Incisional hernias, being a common complication following abdominal surgery, had a reported incidence that ranges from 10–30%. Although a majority of incisional hernias occur along the midline, flank hernias are uncommon and account for less than 10% of all incisional hernias. These hernias usually occur following procedures that involve retroperitoneal or flank incisions, such as nephrectomy, adrenalectomy, or lumbar spine exposure. Additionally, the etiology of incisional hernia is multifactorial, with risk factors including wound infection, obesity, diabetes, smoking, malnutrition, chronic cough, steroid use, and technical issues during closure. Speaking about the flank region specifically, factors such as poor muscular support, proximity to bone, and higher tension on the incision contribute to hernia formation. In clinical terms, patients may present with signs such as flank bulge/pain or discomfort, which can be exacerbated by physical activity. Complications such as bowel obstruction or incarceration can arise, although they are less common than in midline hernias. In order to diagnose, CT imaging is considered first-line in order to rule out other causes of flank swelling, such as muscle atrophy or hematoma. Management is dependent on symptom severity, size of defect, and patient comorbidities. Conservative management may be indicated for small, asymptomatic hernias, albeit surgical repair is generally indicated for symptomatic or enlarging defects. Several techniques that have been described are laparoscopic and robotic approaches, often with mesh reinforcement to reduce recurrence, although recurrence rates do remain higher compared to midline hernia repairs. In the patients discussed in this study, a Prolene mesh was used during surgical repair. In terms of lumbar hernias, they are rare abdominal wall defects, which occur through the superior or inferior lumbar triangles. Lumbar hernias represent ~3% of all hernias, and mesh is acquired following trauma, infection, or flank/retroperitoneal surgery such as nephrectomy or adrenalectomy. Important risk factors to note are obesity, wound infection, and poor fascial healing. Lumbar hernias present as a flank mass that may be mistaken for a lipoma, with CT imaging being the preferred diagnostic tool. Due to the risks of incarceration and strangulation, surgical repair, either open or laparoscopic with mesh reinforcement, is recommended. By highlighting the presentation and management of both lumbar and incisional hernias, this case series reinforces the need for careful evaluation of postoperative and flank masses.

CONCLUSION

Right flank incisional hernias are rare but clinically significant complications of abdominal or retroperitoneal surgery. When compared with incisional hernias, lumbar hernias tend to occur less frequently, albeit sharing overlapping risk factors such as previous surgery, trauma, and increased intra-abdominal pressure. Additionally, important factors such as early recognition, proper diagnosis, and appropriate surgical planning are crucial to prevent morbidity and recurrence. Overall, the cases highlighted in this study underscore the importance of careful surgical technique, risk factor optimization, and individualized repair strategies—particularly the use of Prolene mesh reinforcement.