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Short Report

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Case report of a spigelian hernia following robotic pyeloplasty

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Abstract

Spigelian hernia is a rare ventral hernia that accounts for 0.12% of abdominal wall hernias. It is a protrusion seen through the spigelian aponeurosis which is limited laterally by Linea semilunaris and medially by lateral border of rectus abdominis. This hernia arises due to a weakness in the spigelian aponeurosis which might be iatrogenic, traumatic or due to increased intraabdominal pressure. The case discussed is primarily iatrogenic in origin due to placement of ports in robotic pyeloplasty. A combination of factors has contributed to the occurrence of a Spigelian hernia in this case. Spigelian hernias tend to go undetected as they are often asymptomatic. In the considered case, a 59-year-old man presented with complaints of swelling in the right lumbar region. There is a significant history of chronic bronchitis, robotic pyeloplasty 1 year ago and smoking for 10 years. The patient was considered for hernioplasty with mesh repair because Spigelian hernias are likely to undergo strangulation. This case reflects the importance of assessing abdominal wall weakness post-surgery and ensuring that the incidence of such weakness is reduced by meticulous suturing of port sites.

Keywords: Spigelian hernia; Robotic pyeloplasty; Hernioplasty; Port sites; Abdominal wall weakness.

Introduction

Spigelian hernia is a lateral ventral hernia observed to be protruding out of the spigelian aponeurosis [1]. Spigelian aponeurosis is the aponeurosis of the transverse abdominis muscle limited laterally by Linea semilunaris and medially by lateral border of rectus abdominis. The major etiological factor is defects in the aponeurosis of transverse abdominis muscle [2]. This hernia arises due to a weakness in the spigelian aponeurosis which might be congenital, iatrogenic, traumatic or due to increased intraabdominal pressure. Spigelian hernia is a rare entity constituting 0.12% of abdominal wall hernias [3]. The occurrence of such a hernia post-surgery is rarer.

Case presentation

A 59-year-old man who is a farmer by occupation presented with complaints of swelling in the right flank and pain abdomen for 2 months. Patient was apparently well 2 months ago when he developed a swelling that was insidious in onset, gradually progressive in the right lumbar region initially small but progressed to present size (6 x 7 cm), aggravated on straining and standing and reduced on lying down. He also complains of pain in the right lumbar region of the abdomen which was insidious in onset, gradually progressive, mild in intensity, of dull aching nature, aggravated on doing activity and straining and relieved on taking rest. He had a past history of robotic pyeloplasty on his right kidney 1 year ago and chronic bronchitis. He has been smoking cigarettes for the past 10 years. He has a BMI of 22.7

kg/m^2 which is within the normal range. Abdominal examination revealed an ovoid swelling of size 6.5 x 7 cm located in the right lumbar region (Figure 1) which was reducible with an expansile cough impulse. Bowel sounds were heard with no signs of bowel obstruction.

Investigations done include CECT Abdomen, USG abdomen. CECT abdomen revealed a right sided ventral hernia containing bowel loops (Figures 2,3).

Figure 1: Swelling seen in the right lumbar region.

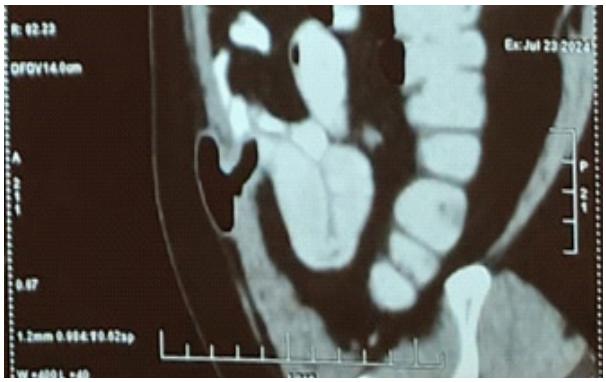

Figure 2: CECT abdomen: Sagittal view of abdomen showing ventral hernia.

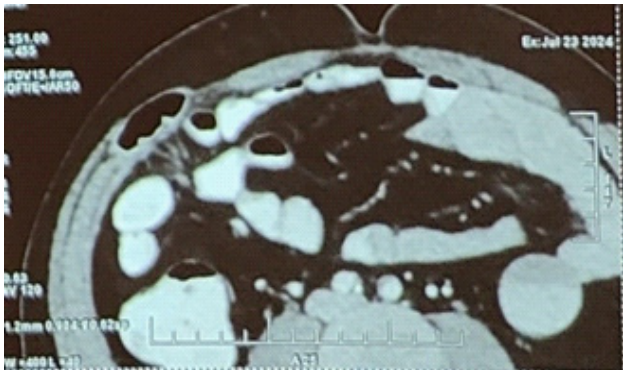

Figure 3: CECT abdomen: Axial view of abdomen revealing right sided ventral hernia.

The management preferred was surgical because this type of hernia is likely to get strangulated [4]. Hernioplasty with mesh repair by open method was the intervention used to treat this case [5]. Hernial sac was identified (Figure 4) and contents of sac were reduced with herniotomy. Defect in the abdominal wall was identified (Figure 5) and synthetic mesh was placed to close the defect (Figure 6).

Figure 4: Intraoperative picture of hernial sac.

Figure 5: Defect in the abdominal wall.

Figure 6: Intraoperative picture of mesh placement in the repair of hernia.

Discussion

Patient has a classical presentation of a rare disease including complaints of swelling and pain abdomen without symptoms of intestinal obstruction. The possible risk factors in this particular case include history of lifting heavy weights by the man who is a farmer by occupation, past history of robotic pyeloplasty 1 year ago and history of smoking for the past 10 years. Investigations revealed a ventral hernia on the right side with bowel loops as its content. Surgical intervention was done 5 days after admission. Patient was kept in the post operative room for 2 days and then shifted to the ward. Literature review showed that Spigelian hernia may also occur following laparoscopy [6]. Weakness of the abdominal wall following robotic pyeloplasty due to placement of lateral ports could be a major contributing factor in the development of Spigelian hernia. Possible methods

to prevent the occurrence of Spigelian hernia at the lateral port sites would be to ensure suturing of deep fascial layers if the spigelian fascia has been pierced [7]. This highlights the importance of considering the possibility of Spigelian hernia following surgical intervention.

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