ORIGINAL RESEARCH PAPER

Volume-7 | Issue-3 | March-2018 | PRINT ISSN No 2277 - 8179

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

PORT SITE HERNIA FOLLOWING LAP IPOM REPAIR OF UMBILICAL HERNIA

General Surgery

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ABSTRACT

Laparoscopy associated complication like trocar site hernia (TSH) have resulted from the increasing use of the technique in surgery.TSH is rare, but a well established problem. We report a case of a 36 year old female patient with TSH following successful laparoscopic IPOM repair of an umbilical hernia.

KEYWORDS

hernia; trocar site, port site incisional, port site; laparoscopic complications

INTRODUCTION:

Laparoscopic surgery is widely practiced and in many cases, it offers realistic benefits over conventional surgery [1]. On the other hand, the increased use of laparoscopy has resulted in added complications specific to the laparoscopic approach, such as port-site incisional hernia. Although its incidence is variable, it is potentially dangerous and can lead to considerable morbidity requiring surgical intervention [2],[3]. Several studies show an incidence of port-site hernia ranging from 1% to 22% [1],[4],[5] but the real incidence may be higher, as some patients remain asymptomatic or do not return to the primary surgeon [2].

Herein, we report a case of umbilical hernia which successfully underwent laparoscopic IPOM repair and later presented with port site hernia.

Case report: A 36 year old female underwent laparoscopic IPOM repair one and half year back.

She was discharged on 3rd postoperative day in good general condition after IPOM repair .Ten days after discharge, the patient was affected by colicky abdominal pain mostly localized in the left lower quadrant, vomiting, and constipation which required a reconsultation. On the clinical examination the abdomen was distended and tender particularly in the left lower quadrant; an oval mass (3 cm) was detected in the same abdominal quadrant near the 12 mm trocar site. The patient responded to conservative treatment but she used to complain discomfort in her abdomen off and on during last 18 months. This time when she had severe pain visited to our emergency and was found to have 7cm x 4cm subcutaneous mass, irreducible with negative cough impulse. The ultrasound scan showed a swelling underneath skin with defect in left lateral fascial wall. Because of the clinical and US findings a clinical diagnosis of obstructed hernia was made, the patient underwent an operation which showed omental herniation through the trocar incision site in the left lower quadrant (Photo 1); the herniated omentum was irreducible hence resected (Photo2) and the hernia orifice(Photo3) was repaired with onlay prolene mesh. The post operative period was unremarkable and patient was discharged on the 8th postoperative day.

DISCUSSION:

The increased use of laparoscopy has resulted in added complications specific to the laparoscopic approach, such as trocar-site incisional hernia (TSH). Although its incidence is relatively rare in comparison to conventional surgery, it might lead to severe complications like hernia incarceration requiring emergent surgical intervention.

Several factors contribute to the development of port site hernias[6]. The classical method of port-site closure by suture is widely used because of its simplicity and cost effectiveness, in some cases, this closure can be difficult and is associated with the predictable fear of injuring or including the underlying bowel loops, omentum, or other abdominal organs by the needle[7]. This may result in less optimal closure and subsequent complications, including port-site incisional hernia.

Most laparoscopic surgeons agree that the diameter of the cannula or port is the single most common cause of incisional or port-site hernias. Emerging evidence suggests that transmuscular placement of a port, the use of small trocars with conical obturators, and the evacuation of air from the peritoneal cavity before the removal of a port serve to significantly decrease the incidence of incisional hernias[8]. The location of the port site also may influence the risk for herniation. Epigastric port tend to place patients at lower risk for developing incisional hernias in commonly performed lap chole, due to the difference in pressure gradients across the abdominal wall and the gravitational pull when the patient is standing.

In our patient, who was physically fit, the lateral ports at initial operation were inserted transmuscularly in a Z-fashion, because abdominal musculature and normal fascial elasticity inhibit herniation by acting as a shutter mechanism over the defect. It is possible that the herniation developed secondary to the partial vacuum effect created when the trocars were withdrawn. As a result of this case, we have changed our practice to include removal of all cannulae under videoscopic guidance and ensure closure of all port sites under direct vision.

Most surgeons do not routinely close lateral port sites[9] because it is commonly thought that the fascial and muscular composition of these sites pose such little risk of herniation that the extra time and effort required to repair them is not justified.

Although the risk of incisional hernia is much higher in cases where large trocars are used, some authors advocate a nonclosure policy for fascial defects created with nonbladed trocars[10]. We disagree with this recommendation. Although nonbladed trocars bluntly displace tissue and muscle fibers laterally, thereby causing less tissue damage than cutting trocars, but the risk for incisional hernia remains. It is possible that laterally displaced muscle fibers do not return to their original state, allowing omentum and bowel to herniate through such a defect. It is for this reason we advocate closing of all port sites and fascial defects larger than or equal to 10mm should be closed with peritoneum. Laparoscopic port site herniation is a completely preventable cause of morbidity that requires a second surgical procedure to repair [11].

Further we no longer think that port sites should be closed blindly, because there are reported incidences of port-site herniation following such closures. We recommend closing these sites under laparoscopic videoscope control, and the last port should be closed by picking up the fascia with Kocher clamps and repairing the defect under direct vision.

Conclusion

If the cannula or port site is 10 mm or larger in diameter, hernias can occur, despite preventative measures such as entering in a Z-fashion or using a noncutting trocar. Recognition and early treatment of port-site hernias avoids strangulation of an incarcerated hernia and the need for bowel resection. Although port site hernias after laparoscopic surgery are uncommon, they remain a significant cause of postoperative morbidity and require prompt intervention if extensive bowel resection is to be avoided. A bulge at a trocar site should alert a surgeon to this complication.

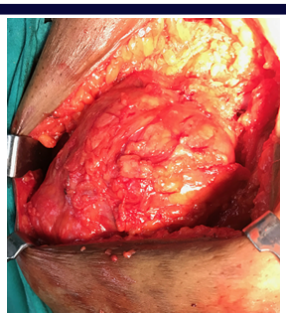

Photo 1: showing hernial swelling after skin incision

Photo2: showing resection of prolapsed omentum

Photo 3 : showing defect in fascia after excising incarcirated omentum

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