

A Simple Modified Technique for Repair of Umbilical Hernia

in Patients Undergo Laparoscopic Cholecystectomy

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Introduction

Umbilical hernia frequently accompanies cholelithiasis especially in female patients. In those cases, some surgeons prefer inserting the first trocar via umbilical ring with open technique or through supra/infra umbilical region, then, repairing the hernia with laparoscopic or open approach with simple suture technique or by using mesh. On the other hand, trocar port hernias are not uncommon. These hernias can get quite large in patients prone to abdominal wall herniation and may cause severe complications if left untreated.

Suture repairs result in recurrence in many patients with umbilical and port hernias. Lower recurrence rates can be obtained with mesh use, however, special laparoscopic equipment and meshes are needed. When the team is not experienced in laparoscopic intra-abdominal mesh placement or the equipment is not complete, the simple modified technique described here may be of benefit.

Technique

The umbilical hernia is examined again just before starting the operation after general anesthesia has been set. Whether supra- or infra-umbilical incision is made for the first trocar is determined according to the extension of the hernia mass. The first incision for camera port is made vertically, not transversally, to make the further dissection for mesh placement easier. After a cholecystectomy has been performed laparoscopically, the first incision is slightly extended towards the umbilicus. The hernia sac is sent into the abdomen and one or two simple sutures are put to approximate the fascia. A similar approximation is done for trocar hole. A piece of polypropylene mesh with an adequate overlap at four edges is fixed onlay to cover both defects. A minivac suction drain can be left in-situ before closing the wound to avoid seroma (Figure 1).

The technique described here was performed in 4 cases with no wound complications. After a median of 22 months (8-36 months) follow-up no recurrence was observed.

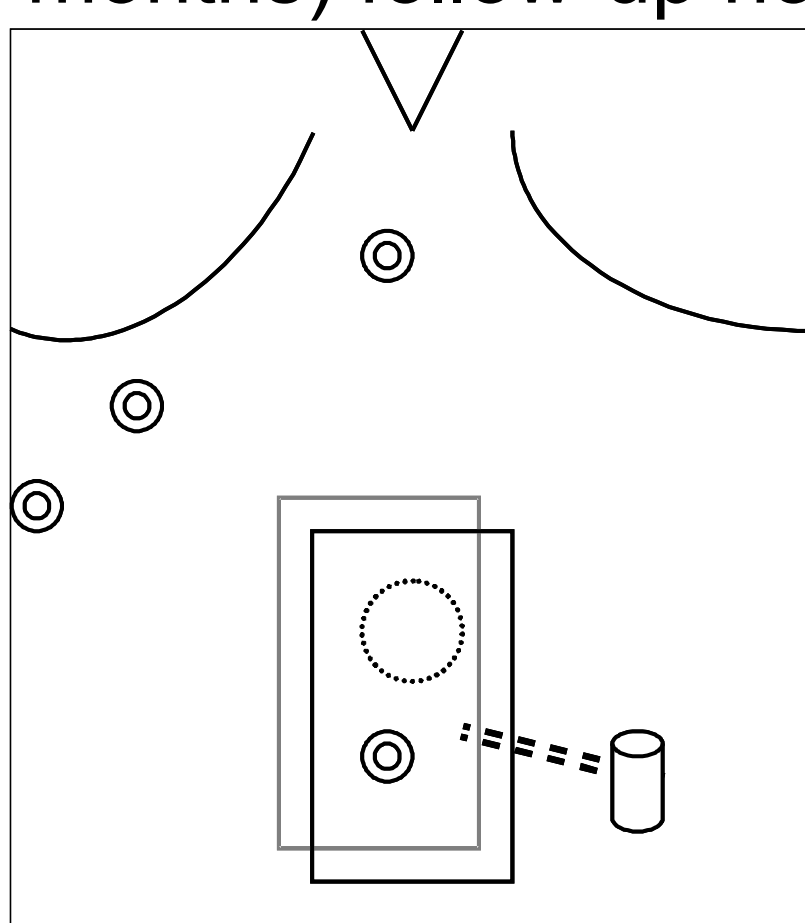


Figure 1. Schematic drawing of the technique.

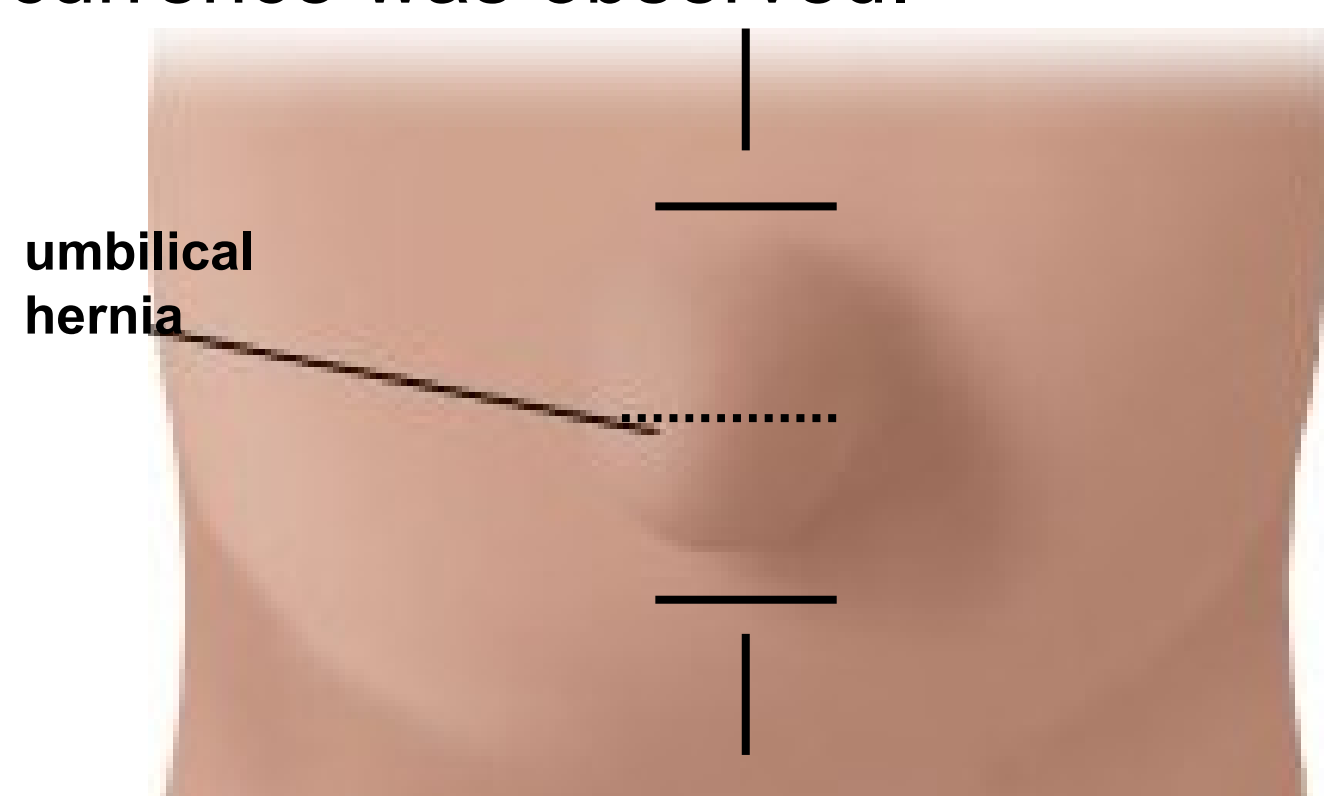


Figure 2. Incision alternatives for camera port insertion:

- vertical supra-umbilical
- transvers supra-umbilical
- umbilical over the hernia lump for open trocar access
- transvers infra-umbilical
- vertical infra-umbilical

Literature Review

Simultaneous umbilical hernia repair is performed in 5-8% of laparoscopic cholecystectomies [1, 2]. However, the reports which evaluate the results of these combined procedures are quite small in number.

Nassar et al. reported an incidence of 12% for umbilical or paraumbilical defects in patients underwent laparoscopic cholecystectomy [3]. Interestingly, only 16.3% of the hernias were symptomatic; the majority of patients were unaware of the defect. Ramachandran found the incidence of fascial defects as 18% during abdominal laparoscopic procedures. The hernias were symptomatic in 56.5% cases, with an overwhelming female preponderance [4]. He preferred a supra-umbilical incision above the upper limit of the hernia was used to establish the umbilical port and through this the hernias were repaired with nonabsorbable sutures. Kamer and colleagues from Izmir, Turkey, investigated retrospectively the records of 64 (8.6%) out of 745 patients who underwent LC and UHR simultaneously [2]. The recurrence rates were 9.4%, 5.6% and none (0%) in repair techniques of primary suture, Mayo repair, and mesh. In fact, laparoscopic repair of umbilical hernias with mesh was considered as a reasonable alternative to open repairs [5-7]. This is especially a good alternative in patients who have been already put in the operation list for laparoscopic cholecystectomy. The abdominal cavity can be entered either by using Hasson trocar technique via umbilicus [8] or with a supra- or infra-umbilical incision [4] (Figure 2). However, if the surgeon prefers a mesh repair over a simple suture closure to avoid a high incidence of recurrence, special and more expensive prosthetic materials are needed. Therefore, the simple combined technique described here may be an economic and reliable alternative.

Conclusion

This simple modified technique which is a combination of "repair" and "prophylaxis" can be a good alternative in patients with concomitant gallbladder disease and umbilical hernia, where laparoscopic repair and intraperitoneal mesh are not available.

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