TAPP repair for inguinal hernias – a new composite mesh technique

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BACKGROUND

Laparoscopic repair of inguinal hernias has been found to be associated with significantly lower incidences of wound infection, haematoma formation, nerve damage, chronic pain syndrome and an earlier return to normal activities when compared to open approaches such as the Lichtenstein repair, with no difference in overall morbidity. However, the recurrence rate has been shown to be higher.^{1,2} Mechanisms of recurrence may be related to technical difficulties and the use of inadequate mesh size and positioning. We describe a composite mesh technique for consideration in the repair of large defects.

TECHNIQUE

A standard laparoscopic approach is used as for TAPP inguinal hernia repair. A first piece of 11 cm x 6 cm polypropylene mesh is shaped and positioned over the posterior wall, wrapped around the cord laterally (Fig. 1). A second main 15 cm x 10 cm mesh is then shaped and positioned medially over the first and stapled to the pubic tubercle and superior-medially before being covered by the peritoneum.

Figure 1 Primary subsidiary mesh covering defect.

We used this composite mesh repair technique in 45 consecutive patients (54.6 ± 13.1 years), 12 cases of unilateral recurrence and 33 bilateral hernias, a total of 78 hernia repairs in all. The mean follow-up period was 23.7 ± 16.7 months. There were only three minor complications – two groin and one port-site haematomas, all of which resolved conservatively. No recurrences or ilio-inguinal neuropathies were observed. LOS 1.2 ± 0.4 days.

DISCUSSION

The TAPP composite mesh technique for inguinal hernia repair described here is a safe procedure with a zero recurrence rate at 2 years in this small series. Similar to findings from extra-peritoneal composite mesh technique series.^{3,4} It is relatively easy to perform and negates the problems of poor mesh positioning and inadequate mesh size.

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A new laparoscopic technique: suction removal of spilled gallstones

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BACKGROUND

Lost intraperitoneal gallstones have caused abscess formation, inflammation, fibrosis, adhesions, cutaneous sinuses, ileus and septicaemia.^{1,2} Few reports describe uncomplicated techniques to remove 'spilled' gallstones.³ Use of a laparoscopic grasper to collect each spilled stone is technically flawed as: (i) gallstones frequently fragment; (ii) a grasper holding the stone cannot pass through the port; and (iii) removal of port causes loss of the pneumoperitoneum.

We present an simple technique for removal of spilled gallstones. The technique relies upon suction, all instruments are in

Figure 1 The movement of the suction tubing back and forth through the 10-mm port-valve mechanism during manoeuvring of port 'end' controls suction applied.

Figure 2 A Spencer-Wells clamp applied to tubing during manoeuvring of suction tubing controls suction for removal of gallstone.

routine use, and the pneumoperitoneum and continued camera vision is maintained.

TECHNIQUE

A standard 10-mm port is used as a suction device by connection to the standard low-intensity theatre suction. The 'female' end of plain suction-tubing is removed and briefly inserted into the 10-mm port positioned over the spilled intraperitoneal gallstones. The suction-tubing is briefly passed to just past the port-valve mechanism causing the port to deliver suction to the stones without loss of the pneumoperitoneum (Fig. 1).

For peripherally positioned stones, the suction-tubing is 'clamped off' using Spencer-Wells forceps (to maintain pneumoperitoneum) and inserted through the port to reach the gallstones under camera vision (Fig. 2). Suction is controlled by release of clamping.

DISCUSSION

This new technique facilitates safe and efficient removal of spilled gallstones and friable fragments without additional cost and is especially useful for: (i) rapid and simple removal of intraperitoneal gallstones and friable gallstone debris with continued camera vision and pneumoperitoneum; and (ii) removal of large stones piece-meal.

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Liver resection using the Atlas vessel sealing system

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BACKGROUND

Various advanced techniques and instrumentation have resulted in low postoperative morbidity and mortality rates in liver surgery.^{1–3} The Atlas LigaSure device (Autosuture, United States