Scarless Cholecystectomy: Laparoscopic Cholecystectomy with Abdominoplasty

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Abstract Three patients presented to our hospital with abdominal wall laxity and symptomatic cholelithiasis. All of them wanted to undergo a cosmetic procedure (abdominoplasty) to reduce the abdominal wall laxity. They were also diagnosed to have cholelithiasis and had intermittent episodes of pain in the right upper quadrant of the abdomen. The ports for laparoscopic cholecystectomy were made in such a way that all the ports sites were removed in the skin flap that was excised during abdominoplasty, and there was no scar in the upper abdomen. The procedure was completed without leaving any telltale signs of laparoscopic cholecystectomy, and this led to a better cosmetic result from the patients' point of view.

Keywords Scarless cholecystectomy · Cholecystectomy with abdominoplasty

Introduction

Laparoscopic cholecystectomy (with all infraumbilical ports) with abdominoplasty is a variation in the established procedure. It can also be called “Scarless cholecystectomy” because of no visible scars pertaining to the cholecystectomy. To our knowledge, this type of procedure has not been performed or

reported so far. The indications for this procedure are patients with abdominal wall laxity who wish to undergo abdominoplasty and have symptomatic gallstones.

Patients and Methods

Between December 2007 and February 2009, we operated on three patients (two females and one male) with abdominal wall laxity with chronic calculus cholecystitis. The mean age of the patients was 32 years (range 24–45 years). All the patients had intermittent episodes of biliary colic. All the patients wanted to undergo a cosmetic procedure to reduce the abdominal wall laxity.

Preoperative Preparation

The patients were counseled and offered the single-stage procedure. They were told specifically about the possibility of conventional laparoscopic ports in the upper abdomen or conversion to open cholecystectomy, and informed consent was obtained.

They were operated under general anesthesia with endotracheal intubation. All the patients were administered preoperative broad-spectrum antibiotics. Sequential compression stockings were placed on both the legs to avoid pooling of blood in the lower extremities.

Technique

The elliptical skin flap in infraumbilical region, which was to be excised later as part of abdominoplasty, was marked with an indelible marker preoperatively by the cosmetic surgeon. We routinely perform laparoscopic cholecystectomy by the ‘French technique’ [1, 2]. Position of the operating team, the

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Fig. 1 French technique and modified positions of the ports

sites of our routine ports, and the “scarless” technique are shown in Figs. 1 and 2.

First a 10-mm port was introduced by open method about 4 cm below the umbilicus in the midline. This was used for creation of pneumoperitoneum with carbon dioxide and used as a camera port. The other ports (one 10 mm and two 5 mm) were introduced under direct vision. Then the patient was placed in a reverse Trendelenburg position of 30° while rotating the table right side up by 15°.

The left 5-mm port was used to retract the liver using the flexible 5-mm liver retractor (Snowdon-Pencer). The left 10-mm and right 5-mm ports were used as the working ports.

Then the usual steps of cholecystectomy were followed. Cystic artery and cystic duct were identified, clamped and divided. The gallbladder was removed through infraumbilical midline port using retrieval bag. Skin incisions were closed with nonabsorbable suture material. The patient was

repositioned in supine position with legs adducted. Painting and draping was done again. Abdominoplasty, that is, rectus plication, neo-omphalopecty, and dermolipectomy of Infraumbilical region was done through extended Pfannenstiel incision that can be hidden underneath regular dress or even under the bikini line. Abdominoplasty wound was closed in layers with a suction drain in situ in the plane of dissection, that is, in between the rectus sheath and the fat layer and flap held with tight dressing (Fig. 3).

Postoperative Care

The patients were given analgesics, antibiotics, and supportive care. All the patients were discharged from the hospital on the third or the fourth postoperative day without any complications and drains removed after 48 h.

Fig. 2 Sites of laparoscopic ports

Fig. 3 Resultant scar of abdominoplasty

Discussion

Scarless cholecystectomy was described in the past using single-port technique through the umbilicus and natural orifice transluminal endoscopic surgery (NOTES) through the vagina [3–5]. Our technique is a modification of the routine ‘French technique’ for laparoscopic cholecystectomy wherein all the ports are placed in the skin that is going to be excised as part of the abdominoplasty, thereby avoiding visible scars pertaining to the cholecystectomy. In this method, French technique makes the surgery relatively easy and safe as the liver is retracted from the left-sided port using a separate liver retractor [1, 2]. The disadvantage in this method is that the ports are much away from the operation site (gallbladder). Consequently, the viewing angle is slightly changed and room for the instrument maneuvering is less. Therefore, extreme caution should be exercised with a low threshold to put an extra port in the upper abdomen in case of any undue technical difficulty.

We advocate this technique in selected patients who request abdominoplasty and also require treatment of gallstones.

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