An alternative non-suture method of fixing wound drains to simplify planned removal and reduce morbidity

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BACKGROUND

Surgical drains are used commonly in emergency, elective and day-case procedures across surgical specialties. Traditionally, fixing the drain involved a suture tying the drain to skin, a method carrying complications such as failure, premature removal, inflammation, bleeding, scarring and rarely skin necrosis. Removal of drains secured by stitches may be problematic outside of specialist nursing facilities and may prove an impediment to performing procedures in day-case units when use of drains is considered prudent. We have developed and employed a technique of affixing drains that has since been adopted by surgical practitioners.

TECHNIQUE

This simple procedure involves sandwiching drain tubes between layers of two clear adhesive C-View dressings (Maersk Medical, Redditch, UK). Half of each dressing is applied to the skin on either side of the drain with the midline of each adhesive touching the base of the drain. The remaining free halves are joined up with the dressing from the opposite side, encasing the drains in a sterile mesentery (Fig 1). The dressing can be continuous with part of it securing the wound. A transparent and oxygen permeable membrane allows

Figure 2 Final result

inspection of wounds and straightforward removal of drains without disruption of the main wound dressing. Firm attachment allows more than one drain to be secured. Figure 2 shows the final result.

DISCUSSION

With the increasing rate of day-case procedures, we present a new, non-sutured and easy-to-manage solution for securing wound drains that can facilitate drain management and removal in the community or primary healthcare environment.

How to manage gallstone spillage during laparoscopic cholecystectomy

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Figure 1 Application of dressing

BACKGROUND

Complications secondary to intra-abdominal gallstone spillage through an iatrogenic perforation of the gallbladder during laparoscopic cholecystectomy are well reported.¹ These include intra-abdominal abscesses, wound sinuses, adhesions or septicæmia^{2,3} and may occur many years after the cholecystectomy.⁴ Short of a laparotomy, the surgeon should attempt to remove all gallstones.² However, operating time is inevitably prolonged while attempting to extract individual stones with an intra-abdominal specimen bag. The stones are often too large to be suctioned. Furthermore, it may be difficult to close the gallbladder perforation to prevent further spillage. We describe a technique to collect gallstones if the gallbladder is perforated during a laparoscopic cholecystectomy.

TECHNIQUE

If the gallbladder is perforated, a 4" x 3" piece of gauze is introduced into the abdomen via the 12mm epigastric port. The gauze is opened

and placed beneath the gallbladder, below Calot's triangle. It is important to ensure the edge of the gauze is flush with the liver at the level of the porta hepatis to minimise any gaps through which stones can be lost. As the cholecystectomy continues, the stones are caught by the gauze. This technique can also be employed if a subtotal cholecystectomy and removal of gallstones is necessary. At the end of the procedure, the gauze is folded in on itself and placed into a retrieval bag together with the gallbladder, ready for extraction.

DISCUSSION

This simple technique prevents the loss of gallstones into the abdomen. This reduces operating time while allowing all ports to be used as planned during the cholecystectomy.

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Simple inexpensive method for intraoperative video and audio documentation

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BACKGROUND

Digital imaging has provided surgeons with new and powerful tools for research, teaching, presentation and medicolegal purposes.^{1,2} Currently, video documentation requires expensive equipment, co-ordination with medical photography units and modification of the surgical technique in order to allow optimal access for the photographer.² Our aim was to find an inexpensive and practical method for documentation of surgical procedures.

TECHNIQUE

Patients are consented for video footage taken during surgery. The camera position and zoom are adjusted to the surgeon's anthropometric characters, and confirmed before commencing the procedure. We use a digital camera (GoPro®, Woodman Labs, San Mateo, CA, US) that can be adjusted with a head strap (Fig 1) and is currently used in numerous sport activities. These cameras have various capturing angles, excellent audio recording, rechargeable batteries that last for 2.5 hours of constant recording and memory cards that can save 8 hours of high definition video. The initial market price of these cameras is as low as £150. We have found the video and audio recordings to be clear and accurate as well as easily transferred and edited.

Figure 1 Digital camera adjusted to surgeon's forehead with a head strap

DISCUSSION

We have described a method of video and audio documentation of surgery that is easy to perform, inexpensive and useful for surgeons without specialist photographic or technological experience.

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