Subtroc for Removing a Gallbladder from the Abdominal Cavity

Recent advances in laparoscopic cholecystectomy have enabled us to perform the procedure using three 3 mm or 5 mm trocars for operative instruments and a 10 mm trocar for the laparoscope [1,2]. A small-diameter laparoscope is necessary to perform the procedure when removing a gallbladder from the abdominal cavity. Small-diameter laparoscopes, however, are expensive, and still give poor imaging [3]. We have developed a subtroc which enabled us to extract the gallbladder without using a small-diameter laparoscope.

As shown in Figure 1, the tip of a subtroc is designed to allow it to be inserted alongside a 10 mm reusable trocar without damaging the surrounding tissue. Thereafter, 5 mm grasping forceps are inserted through the subtroc and used to grasp the gallbladder. The gallbladder is observed using the laparoscope (Figure 2), and is pulled out from the abdominal cavity using the subtroc and the 10 mm trocar used for the laparoscope.

We performed the procedure in 17 patients between 31 August 1998 and 9 August 2000. In one patient, the gallbladder slipped off from the grasping forceps during removal from the abdominal cavity, and the patient showed mild subcutaneous bleeding at the operative wound. Another two patients also had evidence of mild subcutaneous bleeding, which resolved without special treatment. In the other patients, the gallbladder was removed safely without any complications. We conclude that the subtroc is a useful instrument for performing laparoscopic cholecystectomy with small-size trocars.

Figure 1  The subtroc is made of stainless steel and is 200 mm in length and 7 mm in diameter. An ordinary 5 mm forceps can be inserted. The tip of the subtroc is designed as shown in the inset and is shaped around the 10 mm reusable trocar to reduce the size when it is inserted into the abdominal cavity. a  The subtroc is inserted alongside the 10-mm reusable trocar at the navel port site. b  The navel site wound is bluntly dilated with the subtroc and the subtroc is positioned beside the 10 mm trocar. The air leak from the navel site wound is minimal

Figure 2  Extraction of the gallbladder from the abdominal cavity. A 5 mm forceps is inserted through the subtroc (*) and used to grasp the gallbladder. The view can be obtained when only the subtroc is used

S. Kakizoe¹, Y. Kakizoe¹, S. Kase¹, M. Ishida², H. Kakizoe², T. Kakizoe³, K. Kakizoe¹
¹ Dept. of Surgery, Ilikai Medical INC. Kakizoe Hospital, Hirado, Nagasaki, Japan
² Dept. of Medicine, Ilikai Medical INC. Kakizoe Hospital, Hirado, Nagasaki, Japan
³ Dept. of Surgery, Ilikai Medical INC. Kakizoe Hospital, Hirado, Nagasaki, Japan

References

3 Berci G. Laparoscopic cholecystectomy using fine-caliber instruments; smaller is not necessarily better. Surg Endosc 1998; 12: 197

Corresponding Author
S. Kakizoe, M.D., Ph.D.
Dept. of Surgery
Kakizoe Hospital
Kagamigawa 278
Hirado
Nagasaki 859-5152
Japan
Fax: +81-950-225131
E-mail: kakizoes@nagasaki.med.or.jp