Experience in the use of a device to attach an anti-adhesion–absorption barrier film to the abdominal cavity in laparoscopic colorectal surgery

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INTRODUCTION

It has been reported that adhesions occur in more than 90% of patients who have undergone abdominal surgery, and small bowel obstruction is one of the postoperative complications.[1] Postoperative small bowel obstruction may be impaired by laparoscopic surgery, and its prevention is important. Herein, we report a device that can easily be used to apply an anti-adhesion–absorbing barrier film, regardless of the site.

PROCEDURE

Endo Roll™ (Hope Denshi, Chiba, Japan) is a device for inserting Seprafilm™ (Kaken Pharmaceutical, Tokyo, Japan), an anti-adhesion–absorbing barrier film preparation, into the abdominal cavity and applying it to the appropriate site. A slit is inserted so that the film can be sandwiched between the long cylinder and the take-up rod, and a cap is attached to maintain the intraperitoneal pressure [Figure 1a]. The length of the inner cylinder is 320 mm while the outer cylinder is 200 mm long and can be inserted from a 5-mm port. The film is stored in the outer cylinder by pinching and rotating the take-up bar [Figure 1b]. The film is inserted from the port into the abdominal cavity in that state, and the inner cylinder is removed from the outer cylinder in the vicinity of the site of attachment. The spread film is held with forceps and attached to the intended site [Figure 2].

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How to cite this article: Kojima Y, Sakamoto K, Tomiki Y, Mizukoshi K. Experience in the use of a device to attach an anti-adhesion–absorption barrier film to the abdominal cavity in laparoscopic colorectal surgery. J Min Access Surg 2020;16:449-50.
DISCUSSION

There are film-, sheet- and spray-type anti-adhesion–absorbing barriers that can be used today. Film-type anti-adhesion–absorbing barriers have the longest history among the three types, and their usefulness has been reported in many papers.[2] However, as a disadvantage, in the case of using an anti-adhesion–absorbing barrier at the peritoneal injury site in the abdominal cavity, during laparoscopic surgery, in the case of a conventional anti-adhesion–absorbing barrier film, a specialised technique may be required for application. Various households have reported the methods/approaches for the insertion of fire-place inserts.[3] The Endo Roll™ used in this report is a device that can be used for easy insertion and affixation of a film-type anti-adhesion–absorbing barrier preparation into the abdominal cavity. Furthermore, its operation is easy and does not require skilled techniques. However, if there is excessive moisture on the Seprafilm™, the film will worsen and may become difficult to attach. Thus, it is better to operate the device and attach the film as soon as possible. In addition, if the film does not spread into the abdominal cavity, it can be widened by shifting the pinching position slightly, rather than in the middle. Similarly, there are products for attaching Seprafilm™ to the abdominal cavity, but there is a drawback, i.e., the cost is high for single use. The device used currently has a price cap of two dollars and seventy-eight cents for maintaining the pressure in the abdominal cavity, but the device for application to the main body is reusable; thus, it is considered to be beneficial from a medical economic point of view. We believe that a device that simply attaches the Seprafilm™ to the abdominal cavity during laparoscopic surgery is useful.

Financial support and sponsorship
Nil.

Conflicts of interest
There are no conflicts of interest.

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