



# Risk of incisional hernia after laparoscopic colorectal surgery: surgeon's worries and challenges

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The incidence and risk factors of incisional hernia after laparoscopic surgery for colorectal disease have not yet been fully investigated. The surgeon should always consider several potential risk factors of incisional hernia when closing the abdominal wall in laparoscopic colorectal surgery.

**Keywords:** Incisional hernia, Laparoscopy, Colorectal surgery

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Previous studies have reported an incidence of incisional hernia between 0% to 44% after midline laparotomy [1] and about 50% of cases of incisional hernia occur within 2 years postoperatively [2]. In the United States, approximately 100,000 to 150,000 repairs for incisional hernia are performed annually [3], and surgeons are significantly concerned about this common postoperative complication as it negatively impacts patient quality of life and even results in intestinal obstruction or strangulation. Therefore, many researchers have attempted to identify the risk factors and adequate repair methods for incisional hernia. Currently, wound infection, high body mass index (BMI), female, and old age are generally accepted risk factors for incisional hernia [4–6].

As the adoption of laparoscopic surgery has grown, becoming widely and routinely performed, and the incision length of laparoscopic surgery is shorter than open surgery, the incidence of incisional hernia was expected to decrease. For colorectal diseases,

several studies have evaluated the impact of laparoscopic surgery on the occurrence of incisional hernia. The LAFA (Laparoscopy and/or Fast Track Multimodal Management Versus Standard Care) study using multivariable regression analysis reported that laparoscopic colonic surgery was a protective factor for incisional hernia [7]. Similarly, a meta-analysis of seven randomized controlled trials (RCTs) and 14 non-RCTs showed that laparoscopic colorectal surgery was associated with a reduced incidence of incisional hernia compared to open surgery [8]. However, several other studies that evaluated the incidence and risk factors of incisional hernia after laparoscopic surgery reported inconsistent results.

The aim of this retrospective study was to identify risk factors of incisional hernia after laparoscopic colorectal surgery at 12 months postoperatively. This retrospective study reported that female, high BMI, and liver disease were independent risk fac-

tors for incisional hernia after laparoscopic colorectal surgery; however, suture materials like Vicryl (multifilament polyglactin suture; Ethicon Inc., Somerville, NJ, USA) and PDS (monofilament polydioxanone suture; Ethicon Inc.) for fascial closure were not associated with the occurrence of incisional hernia. These findings, with those of previous studies, provide an important alarm to surgeons performing laparoscopic colorectal surgery. However, the results of this study are not confirmative because of its retrospective design with relatively few patients operated by a single surgeon and relatively short follow-up period. A future prospective and large-scale study is needed to better understand the occurrence of incisional hernia at the minilaparotomy site and trocar-inserted site in laparoscopic colorectal surgery.

## NOTES

### Conflict of interest

The author has no conflicts of interest to declare.

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