

Smoking is the Culprit - Umbilical Hernia Rate After Laparoscopic and Laparoendoscopic Single-Site Cholecystectomy

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Objective

A multiport laparoscopic cholecystectomy is the current standard operation for the management of benign gallbladder diseases. Laparoendoscopic Single-Site (LESS) cholecystectomy offers improved cosmesis through a single umbilical incision. The aim of this study was to analyze umbilical hernia occurrences in patients who underwent laparoscopic or LESS cholecystectomy.

Methods and Procedures

Patients who underwent laparoscopic or LESS cholecystectomy undertaken by a single surgeon between 2015 to 2020 were surveyed with a questionnaire by phone call or email. Data are presented as median (mean +/- standard deviation).

Results

Two hundred and fifty-three patients were sent the survey and 130 (51%) patients responded. Overall age was 57 (31 +/- 18) and the overall BMI was 30 (31 +/- 7). Forty-eight (37%) patients underwent laparoscopic cholecystectomy and 82 (63%) patients underwent LESS cholecystectomy. Twelve (9%) patients developed an umbilical hernia. Seventeen patients were active smokers and four (24%) of these patients developed an umbilical hernia. One hundred and thirteen patients were former/non-smokers and eight (7%) of these patients developed an umbilical hernia. Eighty-six patients were nonsmokers and seven (8%) of these patients developed an umbilical hernia. Twenty-seven patients were former smokers and one (4%) of these patients developed an umbilical hernia. There was a statistical significance between umbilical hernia occurrence and smoking history ($p < 0.05$). There was no statistical significance between umbilical hernia occurrence and operative approach, pathology, history of diabetes, development of postoperative infection, or BMI.

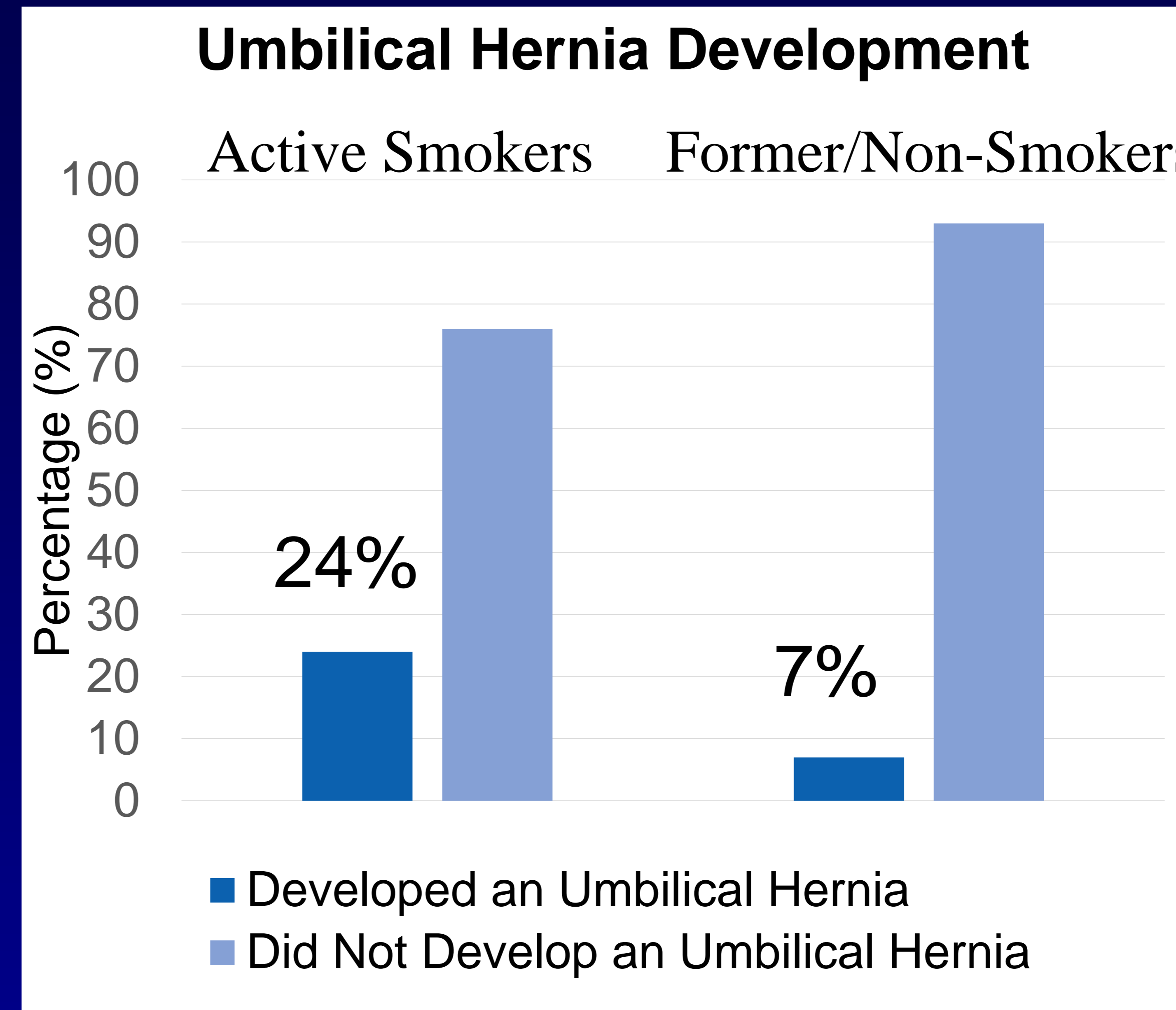


Figure 1: Development of an umbilical hernia between active and inactive smokers ($p < 0.05$).

	Total Patients	No Hernia	Hernia
Non-Smokers	86	72 (92%)	7 (8%)
Former Smokers	27	26 (96%)	1 (4%)

Table 1: Development of an umbilical hernia for non-smokers and former smokers was not significantly different ($p = NS$).

Conclusion

Active smokers have a significantly higher risk of developing an umbilical hernia following a minimally invasive cholecystectomy, regardless of the operative approach. Elective cholecystectomy should be reconsidered for current smokers. Non-smokers and former smokers have a decreased risk of developing a hernia when compared to active smokers.

