



Learning curve in laparoscopic appendectomy: training strategy of laparoscopic surgery

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Laparoscopic appendectomy is one of the simplest minimally invasive abdominal surgeries; complicated (perforated, gangrenous, or with abscess) appendicitis may require an additional advanced laparoscopic technique. A laparoscopic appendectomy was reported for the first time in 1983 by Semm [1] and has been accepted as a safe operation for simple and complicated appendicitis. Many patients with acute appendicitis who have been admitted to a teaching hospital have undergone laparoscopic appendectomy; thus, the frequency of laparoscopic appendectomies performed by surgical residents is increasing. Laparoscopic appendectomy is a good training tool for laparoscopic novices. However, the learning curve of laparoscopic appendectomy performed by surgical residents who do not have any experience of laparoscopic surgery is not known.

The article entitled “*Resident learning curve for laparoscopic appendectomy according to seniority* [2]” shows that accumulation of surgical experience of residents might affect the learning curve of laparoscopic appendectomy. Previous studies regarding the learning curve of laparoscopic appendectomy by surgical residents did not divide outcomes according to seniority in surgical training [3-5]. Operation time is an important and widely accepted variable to assess the learning curve in many other surgeries. However, an important achievement in the learning curve for laparoscopic appendectomy is reduced perioperative morbidity.

The study analyzed the learning curve using not only operation time but also other important parameters of surgical completion rate, intraoperative complication, conversion rate, and postoperative complication. The study included surgical residents with dif-

ferent levels of experience and analyzed them using a multidimensional statistical method for surgical completion as well as operation time to avoid the limitations of previous studies. The senior resident performed surgery relatively slowly but pursued completeness of surgery compared to junior residents. This might mean that accumulation of surgical experience affects surgical completion. Therefore, we suggest that further studies are necessary to prepare a training strategy for laparoscopic surgery according to experience of surgical residents.

In a previous study carried out by our institution in 2010, laparoscopic appendectomy performed by surgical fellows who have completed their residency but had no experience of laparoscopic surgery did not show any difference in postoperative outcomes compared to laparoscopic experts [6]. Of the early experience of laparoscopic surgery and the many experiences of open surgery other than laparoscopic surgery, it may be necessary to identify what is more important for the training of advanced laparoscopic skill.

It is clear that experience of surgical assistance should be accumulated before performing laparoscopic surgery. Further research is needed to determine the amount of surgical assistance experience required in surgical residents to perform laparoscopic surgery themselves. Through these studies, an official surgical training course should be prepared in the laparoscopic era.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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