



Commentary

Commentary to Ceresoli M, Tamini N, Gianotti L et al. “Are endoscopic loop ties safe even in complicated acute appendicitis? A systematic review and meta-analysis”



Every surgeon has their individual preference in how to close the appendiceal stump during laparoscopic appendectomy. Among the most popular methods are endoscopic staplers and laparoscopic loop ties. In their systematic review and meta-analysis, Ceresoli et al. [1] performed a thorough synopsis of randomized controlled trials (RCTs) and cohort studies (CSs) that compared the two.

The authors identified 4 RCTs and 10 CSs on the subject matter, cumulatively including a total of 5934 patients treated with an endoscopic stapler and 6604 patients who had their appendiceal stump closed with loop ties. The outcome variables were wound infection rate, intra-abdominal abscess formation rate, as well as the relative numbers of readmissions and re-operations.

While much has been published on different methods of appendiceal stump closure [2], this is in fact the first meta-analysis on the topic that stratified the results by age (pediatric versus adult) and by type of appendicitis (simple versus complex). This is important, since a previous Cochrane analysis on the topic did not take age into account [3].

In brief, this study showed no differences in postoperative length of stay, and readmission or reoperation rate. The groups also had similar risks for developing intraabdominal abscesses. However, using a stapler lowered the wound infection rate by about half. This effect was even more pronounced in children with a risk ratio of 0.44. Not surprisingly, on average, the application of an endoscopic stapler also shortened operative time by almost 7 minutes. Interestingly, there were no differences in outcome parameters when only complex appendicitis was considered. Of note, a decreased superficial wound infection rate was also shown in the Cochrane analysis quoted above [3].

While some studies have shown an economic advantage of endoscopic loop ties over using a stapler [4], this putative aspect should be weighed carefully against the decrease in wound infections found by Ceresoli et al. in their study [1].

Unfortunately, the study did not look at other popular appendiceal stump closure techniques such as metal or polymer clips [5]. It would

have been interesting to include these in the study as well, particularly because many pediatric surgeons currently use clips because of cost and environmental issues.

The authors should be commended for considering the pediatric patient group separately. While the lower wound infection rate was found across all ages, this effect was particularly pronounced in children with simple acute appendicitis. The conclusion to be drawn from this finding is that pediatric patients, in particular, should undergo laparoscopic appendectomy using an endoscopic stapler, despite the higher cost. Since smaller (5mm diameter) stapling devices are now available, size itself is no compelling argument against their use, even in young children. Once again, this study shows that children are not just small adults, not even when it comes to having an appendectomy.

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