Use of Transfixion of Appendiceal Root with Purse Embedding of Appendiceal Stump in Appendectomy

The value of simple ligation method or invagination method in the treatment of the appendix stump in laparoscopic appendectomy remains controversial. Although many reports support the simple closure of the appendix stump using an endoloop as superior to endostaples, Yildiz et al. found that there was no significant difference between these two methods in terms of duration of surgery, and complications. The meta-analysis conduced by Kazemier et al. also showed that the routine use of endoscopic staplers is more beneficial than loop ligation according to the operative time, superficial wound infection rates, and the frequency of postoperative ileus.

Based on these contradictory statements in the application of two approaches, we performed the routine application of transfixion of the appendiceal root combined with purse embedding of the appendiceal stump in laparoscopic appendectomy, which might make the appendiceal stump merge with serosa and reduce the wounded residues and postoperative intestinal adhesion. This study retrospectively analysed 132 patients who underwent laparoscopic appendectomies in our Hospital from November 2014 to October 2015.

The authors applied a new method of transfixion and invagination and found shorter operation time (43.2 ±10.5 minutes) than endostapler [55 (20-130) minutes] and endoloop [48 (18-170) minutes], reported in Rakic's study.

In this current study, wound infection rate was 0% among 132 patients. It is estimated that transfixion of the appendiceal root combined with purse embedding of the appendiceal stump in laparoscopic appendectomy surgery can make the appendiceal stump merge with serosa, and reduce the wounded residues, as well as the incidence of postoperative intestinal adhesion. At the same time, the embedding of the appendiceal stump can reduce the incidence of appendiceal stump leakage, although the wound infection rate could have been reduced by the use of prophylactic antibiotics, particularly metronidazole. Wnatters et al. also revealed that the method of treatment of the appendix stump does not influence the wound infection rate. Moreover, the sample size limitation below the total of 200 patients in this study might be one of reasons for the inconsistency with the postoperative findings in the previous study.

This retrospective study has certain limitations. Firstly, we did not compare the method of transfixion plus invagination with endoloop or endostapler treatment. Second, the sample size in this retrospective study was limited. Higher quality randomised studies are needed to answer the question definitively. We also need to conduct long-term follow-up in future.

This study showed that the appendiceal stump can be secured safely with the use of transfixion plus invagination in the patients who underwent laparoscopic appendectomy. Based on the present findings, the authors believe that surgeons might have more selective choice for closure of the appendiceal stump.

REFERENCES