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COMMENTARY

Acupoint Massage to Manage Postoperative Ileus in Gynecologic Laparoscopy: A New Potential Player in the Enhanced Recovery After Surgery (ERAS) Pathways?

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The introduction of laparoscopic surgery and the development of anesthetic techniques improved postoperative complication rate, minimizing surgical trauma and pain after surgery. Nevertheless, post-surgical complications are still a major cause of concerns for patients undergoing surgical treatments and for the costs burden of their management [1]. On that basis, a growing interest in the enhancement of postoperative recovery provided evidence-based changes in the clinical practice, with the development of the enhanced recovery after surgery (ERAS) pathways. The ERAS pathways could be considered a paradigm shift in the perioperative care, based on a multimodal interdisciplinary approach aimed to accelerate convalescence and, consequently, reducing morbidity [2, 3]. The aims of cost reduction and outcomes improvement are achieved through the standardization of care, the functional and hemodynamic optimization, the early oral intake, the early ambulation, and the multi-modal opioid-sparing analgesic regimens [4]. All these factors focus on the attenuation of surgical stress preserving homeostasis with fast return to presurgical baseline, and all of them were reported able to reduce perioperative morbidity and mortality [4]. In the gynecological surgery, the ERAS pathways have been successfully implemented in gynecology oncology with the development of specific guidelines for the peri-operative care of these patients [2, 3]. Indeed, in gynecologic oncology the surgical stress and the patient frailty are higher as compared with benign diseases, underling the necessity of a correct postoperative management; nevertheless, the current high

rate of laparoscopic surgery determines a key role of adequate perioperative management, and allows to reduce morbidity rate and costs [1].

Metabolic state, nutrition and bowel function are of paramount importance in the ERAS pathways [4]. Recent evidence suggests that coping with stress is improved in fed than fasted state, as well as better outcomes were reported when complex carbohydrates are given orally up to 2 h before surgery [4]. Therefore, it is recommended a 6-h preoperative fast for solids and a 2 h fast for clear liquids [2, 3]. Similarly, an additional potentially beneficial effect is provided by maintaining the metabolic homeostasis with early feeding [4]. Consistent with this evidence, postoperative ileus was related to increased patient morbidity, hospital costs, and 30-day readmission rates [5]. On that basis, a number of strategies are included in the ERAS with the aim to prevent postoperative ileus, such as laparoscopy, avoid the fluid overload, reduce the use of opioids, early enteral nutrition, chewing gum, μ -opioid receptor antagonist, and the prevention of nausea and vomiting. Nevertheless, these strategies have various effectiveness, limitations and costs [5]. For example, opioid receptor antagonists are effective in accelerating recovery of gastrointestinal function, with a reduction of time to discharge; nevertheless, they are expensive and are not readily available worldwide [4].

Postoperative ileus is a common occurrence following gynecological surgery [4, 5]. Moreover, malignant as well as benign gynecological diseases may require bowel surgery [5–7]. Combined with

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the high incidence of gynecologic surgery, these facts determine the key role of postoperative ileus management in the prevention of patient's postoperative morbidity and hospital costs even in gynecologic laparoscopy.

On that basis, new interventions aimed to further promote gastrointestinal function after gynecologic surgery are necessary: in particular, the acupoint may represent a possible adjuvant strategy for ERAS. In general, limited data are available about the role of acupoint massage in the recovery after gynecological surgery. Acupuncture was reported able to enhance recovery in gynecological surgery without adverse effects: postoperative nausea and vomiting were reported improved in four studies of about a 30%; gastrointestinal motility reported an improvement rate of 50%; and sore throat and urinary retention achieved an improvement rate of 16% and 12%, respectively. However, data were limited, and the role of placebo effect cannot be excluded [8].

In this scenario, a new piece of evidence is provided by the study recently published in the *Journal of Investigative Surgery*, that reports data about the use of acupoint massage after gynecologic laparoscopy [9]. The authors performed a randomized controlled trial, involving 160 women, to evaluate the effects of acupoint massage on postoperative ileus as compared to no treatment. The results showed a significantly shorter bowel sound recovery time, first anal exhaust time and first defecation time in the treatment group. Moreover, aiming to avoid the placebo effect as possible explanation of differences in treatment group as compared to no treatment, the authors evaluated the plasma levels of gastrointestinal hormones such as motilin, somatostatin, and cholecystokinin. The analysis reported different levels between groups after treatment, consistently with clinical data. This parallel clinical and chemical analysis reinforce the value of these results. On that basis, acupoint massage seems to be an effective strategy to promote recovery of gastrointestinal function after gynecologic laparoscopy.

Acupoint is a key element of the traditional Chinese medicine and has a history of more than 2000 years. A growing body of evidence demonstrates the efficacy and the safe of acupoint stimulation in different clinical conditions, for example, when used for pain disorders, such as migraine and low back pain [10]. This technique is based on the concept that the stimulation of specific acupoints, on the skin surface or underneath, modulates visceral physiology and organs function. However, despite many efforts to understand the physiology and anatomy of acupoints, controversy remains about the anatomic sites related to acupoints [10]. Nevertheless, a functional relationship between the acupoints and autonomic nervous systems has been reported, such

as the demonstrated modulation of heart rate variability by acupoints massage. Based on this evidence, results are explained by the hypothesis that the acupoints massage may have a stimulating effect on the vagus nerve of the autonomic nervous system, that regulates gastrointestinal motility by stimulating the release of different gastrointestinal hormones [9].

In summary, this study focused on the effect of acupoint massage on bowel function recovery and demonstrate an effect of this technique on postoperative ileus. Moreover, the Authors provide a possible pathophysiological explanation of the results, and the evaluation of hormones levels provides further support to a real effect instead of placebo one, considering the no-treatment (control) group. On that basis, acupoint massage performed three times per day until first anal exhaustion seems to be an effective approach to improve postoperative gastrointestinal motility, although these promising results require further validations, a cost analysis, and a better definition of mechanisms that provides effects.

DECLARATION OF INTEREST

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

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REFERENCES

- [1] Leissner KB, Shanahan JL, Bekker PL, Amirfarzan H. Enhanced Recovery After Surgery in Laparoscopic Surgery. *J Laparoendosc Adv Surg Tech A*. 2017;27(9): 883–891. doi:10.1089/lap.2017.0239.
- [2] Nelson G, Altman AD, Nick A, et al. Guidelines for postoperative care in gynecologic/oncology surgery: Enhanced Recovery After Surgery (ERAS[®]) Society recommendations — Part II. *Gynecol Oncol*. 2016;140(2): 323–332. doi:10.1016/j.ygyno.2015.12.019.
- [3] Nelson G, Dowdy SC, Lasala J, et al. Enhanced recovery after surgery (ERAS[®]) in gynecologic oncology - Practical considerations for program development. *Gynecol Oncol*. 2017;147(3):617–620. doi:10.1016/j.ygyno.2017.09.023.
- [4] Scott MJ, Baldini G, Fearon KC, et al. Enhanced recovery after surgery (ERAS) for gastrointestinal surgery, part 1: pathophysiological considerations. *Acta Anaesthesiol Scand*. 2015;59(10):1212–1231. doi:10.1111/aas.12601.

- [5] Bragg D, El-Sharkawy AM, Psaltis E, Maxwell-Armstrong CA, Lobo DN. Postoperative ileus: Recent developments in pathophysiology and management. *Clin Nutr Edinb Scotl.* 2015;34(3):367–376. doi:10.1016/j.clnu.2015.01.016.
- [6] Raffaelli R, Garzon S, Baggio S, et al. Mesenteric vascular and nerve sparing surgery in laparoscopic segmental intestinal resection for deep infiltrating endometriosis. *Eur J Obstet Gynecol Reprod Biol.* 2018;231:214–219. doi:10.1016/j.ejogrb.2018.10.057.
- [7] Laganà AS, Vitale SG, Trovato MA, et al. Full-thickness excision versus shaving by laparoscopy for intestinal deep infiltrating endometriosis: rationale and potential treatment options. *BioMed Res Int.* 2016;2016:3617179. doi:10.1155/2016/3617179.
- [8] Yoo JE, Oh DS. Potential benefits of acupuncture for enhanced recovery in gynaecological surgery. *Complement Med Res.* 2015;22(2):111–116. doi:10.1159/000381360.
- [9] Ruan D, Li J, Liu J, Li D, Ji N, Wang C, et al. Acupoint massage can effectively promote the recovery of gastrointestinal function after gynecologic laparoscopy. *J Invest Surg.* In press.
- [10] Li F, He T, Xu Q, et al. What is the Acupoint? A preliminary review of Acupoints. *Pain Med.* 2015;16(10):1905–1915. doi:10.1111/pme.12761.