

**Objective:** Postoperative gastrointestinal dysfunction (PGID) is a common complication following colorectal surgery, significantly impacting patients' postoperative recovery and quality of life. This study aims to investigate whether buccal acupuncture therapy, within the Enhanced recovery after surgery (ERAS) protocol, can further accelerate the recovery of gastrointestinal function in patients undergoing colorectal cancer surgery.

**Methods:** This study is a prospective randomized controlled trial that enrolled 112 patients, with 94 meeting the inclusion criteria. Participants were randomly assigned to either the control group (47 patients) or the buccal acupuncture group (47 patients). The control group received standardized ERAS protocols combined with general anesthesia, while the buccal acupuncture group received buccal acupuncture intervention in addition to the ERAS protocol and general anesthesia.

The primary outcome measure was the time to first defecation. Secondary outcome measures included time to first flatus, time to first tolerated oral intake, postoperative gastrointestinal symptoms (nausea, vomiting, and abdominal distension), and the use of prokinetic agents. Intraoperative anesthetic consumption and hemodynamic parameters were recorded. Postoperative pain and the need for rescue analgesia were evaluated using the Numerical rating scale (NRS). Additionally, the European organization for research and treatment of cancer quality of life questionnaire-core 30 (EORTC QLQ-C30) was utilized to assess postoperative quality of life at 30 days post-surgery.

**Results:** Compared to the control group, the buccal acupuncture group demonstrated a significantly shorter time to first defecation ( $P < 0.05$ ). Other gastrointestinal function indicators, such as time to first flatus, time to first tolerated liquid intake, and time to first tolerated semi-liquid intake, were also significantly reduced in the buccal acupuncture group ( $P < 0.05$ ). Resting and movement pain NRS scores at 0.5h, 6h, 24h, and 48h postoperatively were significantly lower in the buccal acupuncture group ( $P < 0.05$ ). Heart rates at intubation, skin incision, 0.5h after surgery initiation, 1h after surgery initiation, and at the end of surgery were lower in the buccal acupuncture group ( $P < 0.05$ ). At 30 days postoperatively, the EORTC QLQ-C30 assessment indicated that the buccal acupuncture group had a lower incidence of diarrhea, better appetite recovery, and more significant improvement in overall health status ( $P < 0.05$ ). No significant differences were found in perioperative complications between the two groups ( $P > 0.05$ ), and no serious adverse events related to buccal acupuncture were reported.

**Conclusion:** Buccal acupuncture therapy can shorten the time to first defecation and flatus, as well as the time to tolerated oral intake in patients undergoing radical surgery for colorectal cancer. It also stabilizes perioperative heart rate, lowers postoperative pain scores, and enhances postoperative quality of life. This technique is simple to perform, minimally invasive, and highly safe, making it a valuable non-pharmacological intervention for improving postoperative gastrointestinal function recovery in clinical practice.