

## **Small Incisional Surgery for Small Intestinal Diseases is a Safe and Feasible Procedure for Non-Obese Patients**

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### **ABSTRACT**

**Background:** The small intestine is not fixed to the retroperitoneum, and lesions in the small intestine can be resected through a very small skin incision, similar to laparoscopic surgery, if it is placed accurately. In 2010, we reported on small incisional surgery (SIS) for small intestinal diseases, in which the skin incision was placed at the umbilicus based on anthropometric analysis. However, the feasibility and usefulness of SIS for resection of small intestinal lesions have not been elucidated.

**Methods:** From January 2015 to December 2018, seven consecutive patients diagnosed with small intestinal tumors preoperatively underwent partial resection of the small intestine with a 4-cm skin incision at the umbilicus, were retrospectively registered. After the partial resection of the small intestine extracorporeally, intestinal reconstruction was manually performed by end-to-end anastomosis. Four of the patients had cancer, and three patients had Meckel's diverticulum with inflammation.

**Results:** The length of the skin incision was 4 cm in all patients. No patient required enlargement of the skin incision. The mean surgical time was 52.0 (43-58) min. The mean blood loss was less than 5.0 ml. The mean postoperative hospital stay was 9.0 (8-10) days. No postoperative complications were encountered.

**Conclusion:** SIS with a 4-cm skin incision at the umbilicus for resection of small intestinal lesions seems feasible and safe for non-obese patients, similar to single incision laparoscopic surgery.

**Key words:** small incisional surgery, laparoscopic surgery, small intestinal disease