



# Robotic distal gastrectomy with D2 lymphadenectomy for gastric cancer in a patient with situs inversus totalis

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## Abstract

### Background

Situs inversus totalis (SIT) is a rare congenital anomaly. Gastric cancer surgery in mirror-image patients is difficult to perform because of the lack of standardized strategy for collaboration between operators and assistants [1]. In robotic surgery, however, familiarity of surgical positions and a utility of the surgeon's dominant arm may be beneficial to SIT patients. A “solo surgery” can reduce technical difficulties. In addition, three-dimensional images and magnifying views are beneficial to identify vessel anomalies. We report successful robotic gastric cancer surgery on an 80-year-old female patient with SIT.

### Methods

The patient had early gastric cancer at the antrum. Lymph nodes were enlarged in the infra-pyloric area. We performed robotic distal gastrectomy using the da Vinci Xi Surgical System (Intuitive, Sunnyvale, CA). The patient was placed in a supine position and we inserted five ports. The locations of the robot arms were the same as in routine robotic gastrectomy without mirror image. Complete D2 lymphadenectomy around the stomach was performed [2]. No vascular anomalies were found except completely reversed vessels. After gastrectomy, we performed delta-shaped B–I reconstruction. We chose an intracorporeal side-to-side gastroduodenostomy [3]. In our institute, B–I method is first choice for reconstruction after distal gastrectomy \ "bib4" \ o "bib4"[4].

## Results

The operation took 260 min with no intraoperative complications and blood loss of 20 ml. Final pathological examination showed well-differentiated adenocarcinoma [0-IIa, 20 × 20 mm, pT1b (SM1), ly0, v0, pPM0, pDM0, pN1 (1/24)], categorized as TNM stage IB. After receiving the education about exercise, health care, and nutrition, the patient was discharged uneventfully on postoperative day 14. At three months, there was no evidence of complications or recurrence.

## Conclusions

Robotic surgery is an efficient method in an SIT patient with gastric cancer and has similar surgical outcomes to orthodox robotic gastrectomy. Robotic techniques can aid the operator's spatial recognition.

## Disclosures

Toshiyasu Ojima, Masaki Nakamura, Mikihiro Nakamori, and Hiroki Yamaue have no conflicts of interest or financial ties to disclose.

## Human rights statement and informed consent

This study was approved by the Institutional Review Board and the Ethics Committee of Wakayama Medical University. The study protocol was registered at the University Hospital Medical Information Network (UMIN000031536).

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## Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.suronc.2019.06.007>.

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