Gastrointestinal stromal tumor (GIST) in a patient with Neurofibromatosis type 1: A robotic-assisted resection

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Background

Gastrointestinal stromal tumors (GISTs) are the most common mesenchymal tumors of the gastrointestinal (GI) tract, accounting for 80% of all GI tumors. Neurofibromatosis type 1 (NF1) is an autosomal-dominant disorder caused by the inactivation of the NF1 gene.

A gastrointestinal stromal tumor (GIST) has been reported to occur in approximately 6% of patients with NF1. Surgical resection has been described as open, laparoscopic, or robotic-assisted.

Methods

A 43-year-old male patient with a history of NF1 presented with abdominal pain, nausea, hematemesis, and bloody stools. The patient's past medical history was consistent with hypertension and alcoholism. The abdominal CT scan documented a mass-like area within the right side of the abdomen, which appeared solid. Differential diagnoses included an abnormally enlarged lymph node or a neoplastic mass. The patient was scheduled for a surgical procedure and a robotic-assisted laparoscopic resection of the small bowel with an associated mesenteric mass was performed. The specimens resected were a loop of the jejunum and an associated mesenteric mass.

Results

The postoperative course was uneventful. Pain well controlled since the day of surgery, with no nausea or vomiting reported throughout the hospital stay. At postoperative day 4, full return of bowel function was achieved, with the bowel movements described as non-bloody, semi-solid stools. The patient was then discharged home on the 5th postoperative day. The pathological report documented five jejunal/mesenteric GISTs strongly positive for CD117 (c-Kit) and DOG-1 with "moderate grade risk," according to Miettinen's classification.

Conclusions

In this case report, we described the robotic-assisted laparoscopic approach. The benefit of this minimally invasive procedure includes shorter hospital stay, earlier return of bowel function, less post-operative pain, and avoidance of large surgical scars. Moreover, we confirmed the typical location of GIST associated with NF1, which is usually in the small bowel, as opposed to the gastric, which tends to occur in the sporadic group. The multicentric location of the tumor was also noted in our case report, a fact that is well described in GIST associated with NF1. Finally, the pathology report was significant for CD117, spindle cell predominant and benign in nature, histologic findings that are closely related to GIST associated with NF1.

References

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