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Robotic-assisted transgastric approach for the management of a proximal gastric gastrointestinal stromal tumour (GIST) occurring within a hiatal hernia

Niall McInerney, Jessie Elliott, Carrie Thorpe, Fiona Lannon, Aine McCoeey, Gerry McEntee, John Conneely

Department of Hepatobiliary Surgery, Mater Misericordiae University Hospital, Dublin, Ireland

Background: Gastrointestinal stromal tumours (GISTs) are the commonest mesenchymal tumours of the gastrointestinal tract, most frequently occurring in the stomach. While tyrosine kinase inhibitors have improved outcomes for patients with advanced or high risk GISTs, surgical resection remains the mainstay of treatment for localised disease. A minimally-invasive transgastric approach may be particularly useful for tumours in close proximity to the oesophagogastric junction.

Methods: We present the case of a 72-year-old female who presented with dyspepsia. Computed tomography, upper endoscopy and endoscopic ultrasound demonstrated a 4.5 cm submucosal tumour in the gastric cardia, with features suggestive of a GIST. Fine needle biopsy demonstrated a spindle cell neoplasm positive for CD117 and DOG-1, with no mitoses identified.

Results: A robotic-assisted transgastric resection was undertaken using the DaVinci XiTM system. Following reduction of the hiatus hernia, dissection of the hernia sac, and intraoperative endoscopy, a longitudinal anterior gastrotomy was performed, and the tumour exteriorized. The tumour was resected using a Sure Form 60 stapler and the gastrotomy closed using a V-lock suture. Operative time was 95 minutes. The patient had an uncomplicated

postoperative recovery, and histology confirmed a GIST, which was pT2 R0, DOG-1 and c-KIT positive.

Conclusions: Robotic transgastric resection is a safe and effective approach for GISTs located near the oesophagogastric junction, with enhanced dexterity and 3D vision facilitating hiatal dissection where necessary. The included video demonstrates a stepwise approach for transgastric resection of a proximal gastric GIST contained within a hiatus hernia.

Keywords: Upper gastrointestinal (upper GI); robotic; minimally invasive surgery; gastrointestinal stromal tumour (GIST); transgastric resection

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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