



Triangulation suturing platform for dumping syndrome after 1-anastomosis gastric bypass: a case report

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INTRODUCTION

Dumping Syndrome (DS) consists of symptoms elicited by the rapid transit of undigested food into the small bowel. It occurs in up to 40% of patients undergoing gastric bypass. Symptoms vary in both nature and severity and traditionally are evaluated using the Sigstad score.¹ The onset of DS has been linked to the dilation of the GastroJejunal Anastomosis (GJA).² The transoral outlet reduction of the GJA has proven to be effective for the treatment of DS.³⁻⁶ The Endomina system (Endo Tools Therapeutics S.A., Gosselies, Belgium) is a single-use, over-the-scope triangulation suturing platform provided with Conformité Européenne marking for endoscopic gastroplasty.⁷ To our knowledge, the use of this triangulation suturing platform for an endoscopic revision after gastric bypass has not yet been described.

CASE PRESENTATION

We present the case of a 54-year-old woman with a history of 1-anastomosis gastric bypass performed in 2020 for class II obesity (Body Mass Index [BMI] at the time of surgery: 39 kg/m²). Three years postoperatively, the patient developed severe DS (Sigstad score: 16), accompanied by an endoscopic finding of an enlarged gastrojejunal anastomosis (Fig. 1). At the time of the endoscopic revision in 2024, the patient had a BMI of 25 kg/m², with a minimum BMI of 21 kg/m² recorded 1 year after surgery. After informed consent, the patient underwent transoral outlet reduction using the previously described triangulation suturing system.

Abbreviations: BMI, body mass index; DS, dumping syndrome; GJA, gastrojejunal anastomosis.

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PROCEDURE TECHNIQUE

The procedure was performed with the patient in the supine position under general anesthesia in the endoscopy

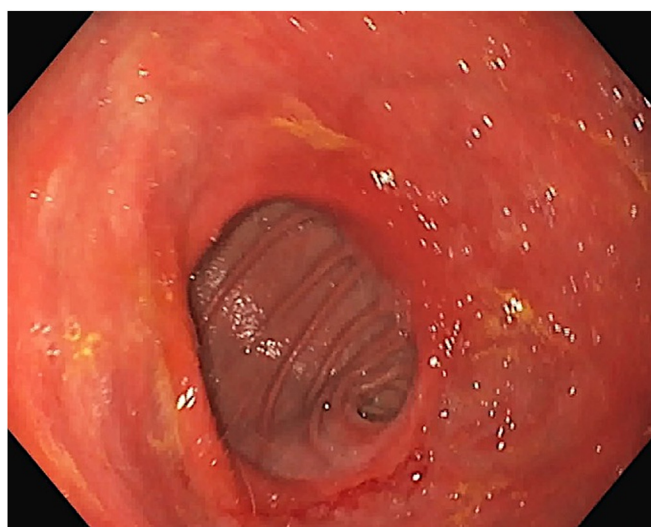


Figure 1. Gastrojejunal anastomosis enlargement.

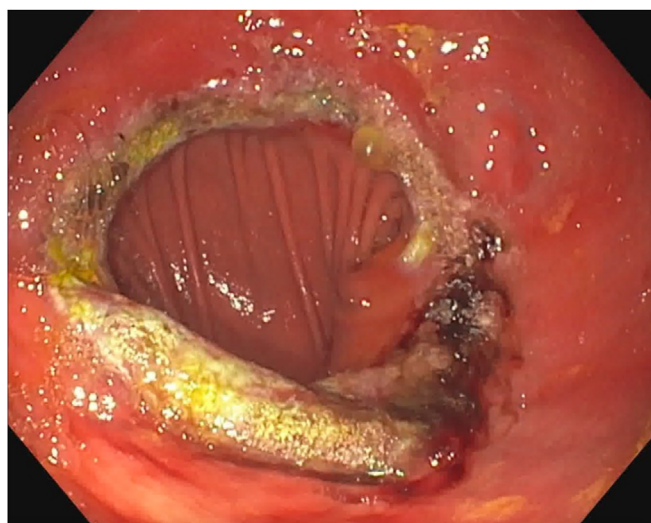


Figure 2. Argon plasma coagulation ablation of the gastric rims of the gastrojejunal anastomosis.

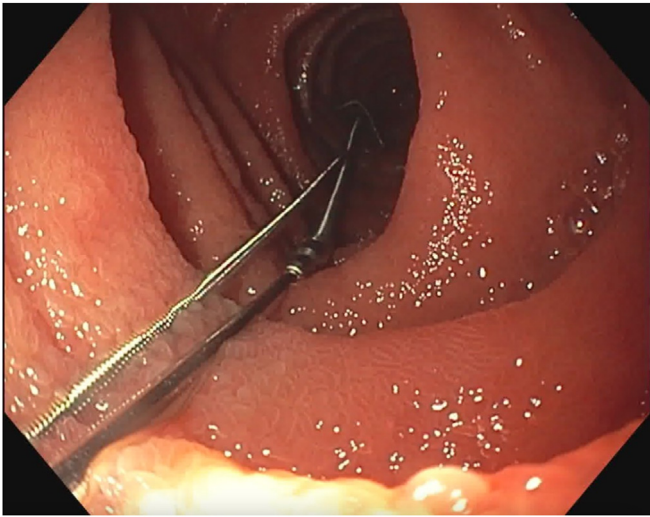


Figure 3. Placement of guidewires into the anastomosed jejunum for the Endomina system placement.

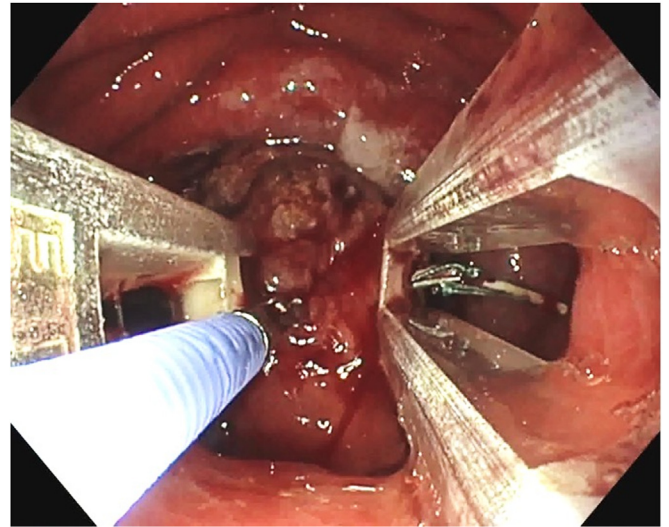


Figure 5. A tag with a pretied knot is released before retracting the needle.

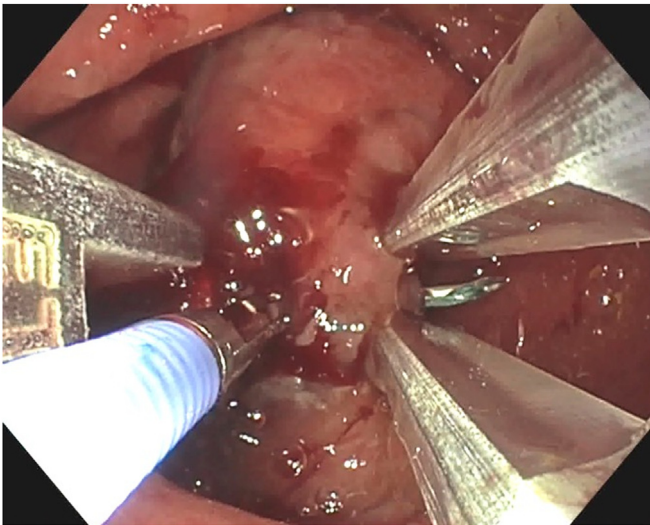


Figure 4. Margin of gastrojejunal anastomosis is grasped with a forceps, and a 5F needle with a suture thread is pushed through the tissue.

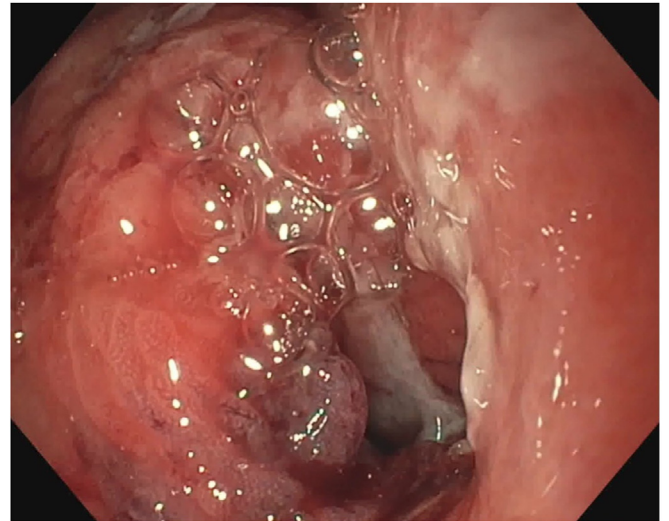


Figure 6. Final result shows an 80% anastomosis reduction.

unit ([Video 1](#), available online at www.videogie.org). First, the gastric side of the GJA was cauterized by argon plasma coagulation (0.8 L/min, 40 W) ([Fig. 2](#)) to induce tissue fibrosis, enhancing suture tightness. The platform suturing system was then placed into the stomach in closed position over 2 previously placed rigid guidewires ([Fig. 3](#)). Subsequently, guidewires were retrieved, and the system was opened; the endoscope was then assembled to the system and inserted between the device shoulders. A 5F needle preloaded with a suture thread was introduced through the flexible arm of the platform and then angulated at 90°. The margin of the GJA was grasped with a forceps, pulled inside the device, and the needle pushed through the tissue with the release of a first tag with a pre-tied knot ([Figs. 4 and 5](#)).

After retracting the needle, a second plication was performed on the opposite side of GJA, and a second tag was released. The knot was caught with a single-use snare, the suture tightened, and the thread cut with endoscopic scissors. The action was repeated once more to obtain an 80% anastomosis reduction ([Fig. 6](#)). The procedural time was 28 minutes.

OUTCOMES

No serious adverse events occurred. In the immediate postoperative period (within the first 6 hours after the procedure), the patient experienced nausea and abdominal

cramping, which were effectively managed with the intravenous administration of ondansetron and hyoscine *N*-butylbromide, resulting in satisfactory symptom control and no further need for medication. The patient was discharged 24 hours after the procedure with instructions to follow a liquid diet for 2 days, followed by a soft diet for the next 3 weeks before gradually resuming all food consistencies and a regular diet. Follow-up at 6 months was conducted to assess the patient's overall condition, evaluate symptoms, and monitor weight. The patient was in excellent condition at the 6-month follow-up with no DS symptoms noted (Sigstad score <4) and a BMI of 23 kg/m².

PATIENT CONSENT

The patient in this article has given written informed consent to publication of the case details.

DISCLOSURE

F. Barbaro is a consultant for Olympus. Cristiano Spada is a consultant for Medtronic and AnX Robotics and received speaker's fees from Olympus and Pentax. I. Boškoski is a consultant for Apollo Endosurgery, Boston Scientific, Nitinotes, Pentax, Cook Medical, Microtech, ERBE, Siemens, Myka labs, and Endo Tools Therapeutics S.A.; conducts sponsored lectures for Apollo Endosurgery, Boston Scientific, Cook Medical, Microtech; is a recipient of a research grant from Apollo Endosurgery, Endo Tool Therapeutics, and ERBE; and is a scientific advisory board member for

Nitinotes and Myka Labs. The other authors declare no conflict of interest.

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