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Incisional endoscopic therapy as a therapeutic alternative in esophageal anastomotic strictures refractory to conventional treatment

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ABSTRACT

Esophageal anastomotic strictures are a non-negligible cause of benign strictures and secondary dysphagia. It should be noted that these are often complex strictures, with a large ischemic-fibrotic component. Thus, they are difficult to treat due to their recurrence, despite endoscopic dilation. Endoscopic incisional therapy appears as a therapeutic alternative in this type of patient, which allows the elimination of the stenotic ring, with a good efficacy and safety profile. We present the case of a patient with postoperative esophageal strictures refractory to treatment with dilation and endoscopic prosthesis, who was finally satisfactorily treated with incisional therapy.

Key words: Anastomotic esophageal strictures. Refractory esophageal strictures. Incisional therapy.

INTRODUCTION

Despite the limited scientific evidence regarding endoscopic incisional therapy (IT), this technique was first described by Raskin et al. in 1985 in esophageal strictures secondary to Schatzki's ring (1). The majority of esophageal strictures are usually

simple and are associated with a good response to conventional endoscopic treatment with dilation. However, there are complex strictures that are difficult to manage in up to 10-30% of cases. This is either due to their length (greater than 2 cm), their characteristics (very angular and punctiform) or their etiology (great fibrotic-cicatricial component, such as caustic, postsurgical or secondary to radiotherapy strictures) (2). Incisional therapy represents a novel therapeutic alternative to be considered in postsurgical refractory benign strictures.

CASE REPORT

We present the case of a 71-year-old male undergoing neoadjuvant radio-chemotherapy with a subsequent esophagectomy with esophagogastroplasty and esophagogastric anastomosis due to stage IIIA esophageal adenocarcinoma (T3 N1 M0). After one month, the patient presented with dysphagia and an upper gastrointestinal endoscopy showed a punctate stricture 20 cm from the dental arch, impassable with the ultraslim endoscope (diameter 4 mm). A first endoscopic treatment was performed by dilation with a CRE™-type balloon, which was unsuccessful after two sessions. Thus, a fully covered metal stent (type SX-Ella®) was placed, with no complications during the procedure. After five weeks, the patient had significant dysphagia again and an endoscopy showed the punctate stricture and the stent that had migrated to the gastric chamber. At this point, we decided to perform incisional therapy (IT) with a needle-knife connected to an electrosurgery unit type VIO® 300D, followed by balloon dilation, with no immediate complications (Fig. 1). After two months, the gastroscopy was repeated, which revealed a known stricture of about 6 mm in diameter (franchable with ultraslim endoscope). A second session of incisional therapy was performed with needle-knife followed by balloon dilation. After six months, a third IT session was performed using the RIC modality ("radial incision and cutting"), resecting the stenotic ring circumferentially using an insulated-tip knife. After six months, the RIC technique was repeated. After the fourth IT session, the technique was considered to be successful as it allowed the endoscope to pass at the end of it (standard 10 mm diameter gastroscope). There were no immediate or delayed complications related to the technique in any of the sessions, except for mild

self-limiting bleeding.

The patient has remained asymptomatic for long periods (six months) during a follow-up period of 18 months since the first IT session, tolerating semisolid, crushed and enteral supplements (one or two a day). It should be noted that the patient maintains a good nutritional status and a stable weight, with favorable analytical data such as normal levels of albumin and prealbumin, hemoglobin, cholesterol, triglycerides and transferrin.

DISCUSSION

Anastomotic stricture is a relatively frequent problem in the daily clinical practice, as it occurs in up to 5-46% of esophagogastric surgeries (2). They are usually difficult to treat due to their high recurrence to conventional treatment with balloon dilation. Furthermore, more than 40% of patients will require more than three dilation sessions and 90% of patients who have a first recurrence will develop new episodes during follow-up (3).

Other therapeutic options such as the placement of endoscopic stents for this type of stricture do not obtain optimal results, according to the case we present here. Suzuki T et al. obtained a therapeutic success in only three of 13 patients from different medical centers with esophageal anastomotic strictures treated with metal stents (4). Likewise, Speer E et al. reported a treatment success rate of only 27% in a study of 23 patients with strictures after esophagectomy treated with fully-covered metal stents (5). These results reflect the difficult approach that this type of strictures entail, having to resort in most cases to other alternatives, such as incisional therapy.

The goal of incisional therapy or endoscopic electroincision is the disruption or resection of the stenotic ring and the main indication is benign, short (less than 1 cm in length) and fibrotic strictures, both esophageal and colorectal. Small radial incisions (between 8 and 12 per session) are made using an electric knife with pure cut pulses or cut-coagulation. The most commonly used are the needle-knife or standard sphincterotome and the insulated-tip knife or IT-knife (Fig. 2) (6). Another modality of IT is the RIC. The stenotic ring is resected circumferentially along the axial axis of the esophagus in this procedure, instead of making radial incisions (6).

The most common complications related to the technique are pain, bleeding and perforation. However, there is no evidence of significant bleeding in the published series, with perforation rates between 0-3.5%. Thus, it is usually a safe technique in most cases (7,8) with a profile of adverse events similar to endoscopic dilation. With regard to efficacy, Muto M et al. showed that IT (RIC modality in this case) had a significantly higher response rate than balloon endoscopic dilation after six (65.3% *vs* 19.8%, $p < 0.005$) and 12 months of follow-up (61.5% *vs* 19.8%, $p < 0.005$) in a study of 54 patients with refractory anastomotic stricture after esophagogastric surgery. Furthermore, there were no serious adverse effects in any patient (9). Samanta J et al. obtained a success after several sessions in eleven of 14 patients with benign esophageal strictures (anastomotic and caustic strictures) and incisional therapy followed by balloon dilation was performed in these cases (6).

The case report presented here has the limitation of being an isolated case. However, there is a long follow-up (18 months) and the effectiveness and safety of the technique is demonstrated, as well as the good long-term results. Finally, it should be noted that several authors have already proposed decision algorithms according to the current evidence. Incisional therapy represents the first-line treatment in refractory strictures that are short and fibrotic, mainly the anastomotic strictures and Schatzki rings (6,10) (Fig. 3).

CONCLUSION

Esophageal anastomotic strictures are often refractory to conventional treatment. In this clinical setting, incisional therapy is a technically simple, effective and safe therapeutic option that should be taken into account in our daily clinical practice. This approach could avoid more aggressive treatments such as a second surgery in these patients.

REFERENCES

1. Raskin JB, Manten H, Harary A, et al. Transendoscopic electrosurgical incision of lower esophageal (Schatzki) rings: a new treatment modality. Gastrointest Endosc 1985;31:391-3. DOI: 10.1016/S0016-5107(85)72257-2

2. Van Boeckel PG, Siersema PD. Refractory esophageal strictures: what to do when dilation fails. Curr Treat Options Gastroenterol 2015;13:47-58. DOI: 10.1007/s11938-014-0043-6

3. Siersema PD. Wijkerslooth LR. Dilatation of refractory benign esophageal strictures. Gastrointest Endosc 2009;70:1000-12. DOI: 10.1016/j.gie.2009.07.004

4. Suzuki T, Siddiqui A, Taylor LJ, et al. Clinical outcomes, efficacy, and adverse events in patients undergoing esophageal stent placement for benign indications: a large multicenter study. J Clin Gastroenterol 2016;50:373-8.

5. Speer E, Dunst CM, Shada A, et al. Covered stents in cervical anastomoses following esophagectomy. Surg Endosc 2016;30:3290-303. DOI: 10.1007/s00464-015-4661-4

6. Samanta J, Dhaka N, Kant Sinha S, et al. Endoscopic inicisional therapy for benign esophageal strictures: technique and results. World J Gastroenterol 2015;7(19):1318-26.

7. Hordijk ML, Van Hooft JE, Hansen BE, et al. A randomized comparison of electrocautery incision with Savary bougienage for relief of anastomotic gastroesophageal strictures. Gastrointest Endosc 2009;70:849-55.

8. Lee TH, Lee SH, Park JY, et al. Primary incisional therapy with a modified method for patients with benign anastomotic esophageal stricture. Gastrointest Endosc 2009;69:1029-33. DOI: 10.1016/j.gie.2008.07.018

9. Muto M, Ezoe Y, Yano T, et al. Usefulness of endoscopic radial incision and cutting method for refractory esophagogastric anastomotic stricture (with video). Gastrointest Endosc 2012;75(5):965-72.

10. Van Boeckel PG, Siersema PD. Refractory esophageal strictures: what to do when dilatation fails. Curr Treat Options Gastroenterol 2015;13:47-58. DOI: 10.1007/s11938-014-0043-6

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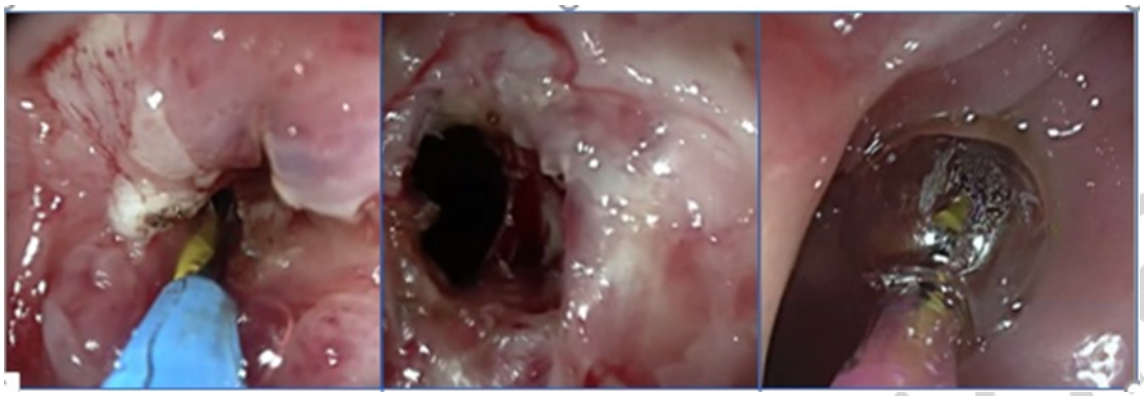

Fig. 1. Post-surgical esophageal stenosis before and after applying the first session of endoscopic incisional therapy using a needle sphincterotome (neddle-knife), followed by balloon dilation.

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Fig. 2. A. Standard sphincterotome. B. Insulated-tip knife.

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Fig. 3. Recommended therapeutic algorithm for the treatment of refractory benign strictures (modified from Van Boeckel PG et al.) (10).