ENDOSCOPIC MANAGEMENT OF CORROSIVE ESOPHAGEAL STENOSIS BY TEMPORARY STENT PLACEMENT

Gelu-Cristian ROSIANU1,2, Mihaela RUSU3, Vasile SANDRU3, Camelia DIACONU4, Narcis COPCA5

1 CESITO Center, „Sfanta Maria“ Clinical Hospital, Bucharest, Romania
2 Department of Gastroenterology, „Sfanta Maria“ Clinical Hospital, Bucharest, Romania
3 Department of Gastroenterology, Clinical Emergency Hospital of Bucharest, Romania
4 „Carol Davila“ University of Medicine and Pharmacy, Department of Internal Medicine, Clinical Emergency Hospital of Bucharest, Romania
5 Department of Surgery, „Sfanta Maria“ Clinical Hospital, Bucharest, Romania

Received 06 Mar 2018, Accepted 11 May 2018

Corresponding author: Cristian ROSIANU
CESITO Center, „Sfanta Maria“ Clinical Hospital, Bucharest, Romania
e-mail: rosiaru_cristian@yahoo.com

Introduction. L’ingestion de substances caustiques provoque fréquemment de graves endommagements aux muqueuses du tractus gastro-intestinal supérieur, la perforation occasionnelle et rarement la mort du patient. La plupart de ces événements sont accidentels surtout quand il s’agit d’enfants ou de personnes âgées et volontaires (à des fins suicidaires) dans les cas des adultes. Si le patient survit à l’épisode aigu, les complications à long terme sont principalement représentées par des sténoses œsophagiennes ou gastriques et après une ou deux décennies d’évolution par le cancer de l’œsophage. Le traitement endoscopique des sténoses bénignes de l’œsophage consiste en la dilatation par bougies Savary ou par ballon, le placement d’une endoprothèse œsophagienne, afin de restaurer la perméabilité de l’œsophage.
before presentation. After multiple sessions of endoscopic dilatation with Savary bougies, an esophageal stent was placed, that solved patient’s dysphagia.

**Conclusions.** Post-caustic esophageal stenosis is a common cause of dysphagia in patients with ingestion of corrosive substances. Patients can benefit from endoscopic esophageal stent placement treatment.

**Keywords:** esophageal stenosis, dysphagia, Savary bougies, esophageal stent.

**INTRODUCTION**

The incidence of corrosive substances ingestion is high and the number of reported cases is small in poorly developed and developing countries. Evolution is dependent on many factors such as the amount of ingested substance, the pH of the substance and the duration of exposure. Ingestion of alkaline substances produces liquefied necrosis with more limited prognosis than coagulated necrosis produced by the ingestion of acidic substances. The immediate complications following the ingestion of caustic substances are: upper digestive hemorrhage and upper digestive tract perforation. The late complications in patients who survive the initial episode are eso-gastric stenosis, gastro-colic fistula and esophageal neoplasm.

The main treatment for esophageal post-caustic stenosis is endoscopic dilation with Guillard-Savary bougies or balloon dilatation. Besides malignant indications, esophageal self expandable stents are used for reectory benign strictures, benign perforations, postoperative anastomotic leaks and benign fistulae.

Two different strategies for stenting have been described. The metal and the plastic stents press against the esophageal wall, with food and secretions that pass through the stent itself.

Of the most common post dilation complications we include refractory stenosis, odynophagia, hemorrhage, esophageal perforation and mediastinitis.

In the event of recurrence or ineffective endoscopic dilatation, it can be done a new session of endoscopic dilation with Savary bougies associated with corticosteroid injection, esophageal stent placement and endoscopic incision of stenosis. The most common complications in patients treated with an esophageal stent are: stent migration, tissue in-and/or overgrowth, food obstruction, hemorrhage, severe pain and ruptured esophagus.

**CASE PRESENTATION**

We present the case of a 47-year-old patient, admitted to the Gastroenterology Clinic of the “Sf. Maria” Hospital, Bucharest, for solid and semi-solid foods dysphagia after voluntary ingestion of corrosive substance for suicidal purposes. The caustic ingestion episode occurred 9 months before presentation. From the medical history of the patient, we retain type II diabetes mellitus controlled with oral antidiabetic agents. Laboratory investigations revealed mild normochromic, normocytic anemia, hypoproteinaemia and hypoalbuminemia.

An eso-gastro-duodenal barium passage was performed, which revealed tight esophageal stenosis in the lower third of the esophagus (Fig. 1). Pulmonary radiography and abdominal ultrasound did not show any changes. It was decided to perform a superior digestive endoscopy, that highlighted tight esophageal stenosis, located in the lower third of the esophagus (Fig 2). Endoscopic dilatation with Savary bougies was performed, which relieved the dysphagia (Fig. 3).

After one year of endoscopic dilatation sessions with Savary bougies, they became ineffective. Due to the appearance of dysphagia for solid and semi-solid foods, 3 days after endoscopic dilation, it was decided...
to mount a fully covered esophageal stent of 100/20 mm (Fig 4).

The stent was maintained for 6 weeks, during which time the patient was fed normally. After this period the stent was removed and the esophageal stenosis did not recover.

**DISCUSSION**

Benign esophageal stenoses are frequent causes of digestive diseases that reduce the quality of life. The most common causes of benign esophageal stenosis are: gastro-esophageal reflux, pharyngeal surgery, radiotherapy, submucosal esophageal resection, caustic ingestion, infectious factors – Candida, tuberculosis, syphilis, colon inflammation such as Crohn’s disease with esophageal disorder.

Ingestion of caustic substances may lead to lesions in the pharynx, larynx, esophagus, respiratory tract and stomach.

The majority of benign esophageal stenosis can be successfully treated with bougies dilation.

The dilation with Savary bougies and balloon dilation represent the main method of the treatment of benign esophageal stenosis.

Stent insertion is not the first choice recommended procedure, due to its high rate of necrosis and ulceration, tissue hyperplasia, new stricture or fistula formation, and the tendency for the metal portion to embed within the esophageal wall.

But the temporary stent insertion for refractory benign esophageal strictures may be useful, especially in those patients in whom other therapeutic options are unavailable or unsuccessful.
CONCLUSIONS

Dilation of benign post-caustic esophageal stenosis is a safe and effective therapeutic method in most cases, avoiding morbidity and mortality associated with operator risk. The purpose of esophageal dilatations is to obtain a permeable esophageal lumen with symptom relief. There are several techniques for endoscopic dilatation, but it is necessary to select a specific and individualized method for each patient so that the beneficial effect is maximal and complications are minimal. Endoscopic dilatation techniques should be performed by an experienced endoscopist in tertiary centers. Esophageal stenting remains the last therapeutic option when endoscopic dilation becomes ineffective.

Compliance with Ethics Requirements:

"The authors declare no conflict of interest regarding this article"

"The authors declare that all the procedures and experiments of this study respect the ethical standards in the Helsinki Declaration of 1975, as revised in 2008(5), as well as the national law. Informed consent was obtained from all the patients included in the study"

REFERENCES