

# Initial experience with Biodegradable Esophageal Stent in the management of locally advanced esophageal cancer

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## OBJECTIVE:

Preliminarily describe the experience in the use of biodegradable stents in the management of patients with esophageal cancer located in the middle and distal third (gastro-oesophageal junction).

## MATERIALS AND METHODS:

This work corresponds to a preliminary report to describe the experience in the Interventionism section of the National Cancer Institute of Panama in the use of biodegradable esophageal stents in patients with locally advanced cancer in the middle and distal third of the esophagus.

It includes all patients who were placed with a biodegradable esophageal stent from January 1, 2021 to August 1, 2022.

All patients were evaluated by the medical oncology and oncological surgery service where stent therapy was indicated, for dysphagia.

In all procedures, prostheses (esophageal biodegradable stent) SX-ELLA brand from the Czech Republic were used, all made with polydioxanone. (Fig. 1)

The procedure included the application of xylocaine spray in the oral cavity to later place a multipurpose angiographic catheter and with Terumo brand hydrophilic guide model radiofocus Wire M of 260cm of angular tip, to reach and over pass the stenosis zone until you reach the gastric chamber, to perform the guide replacement with Non-vascular guide Sterile Hydro Slide of 450 cm.

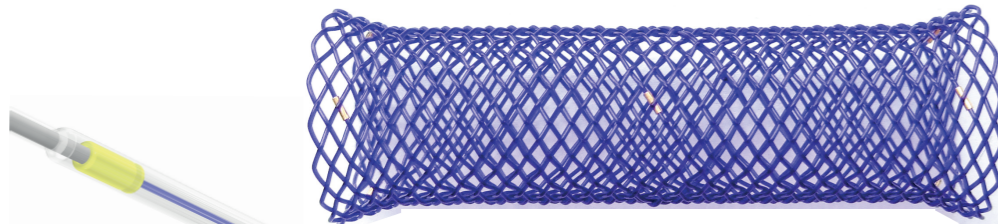


Fig. 1 BD Stent

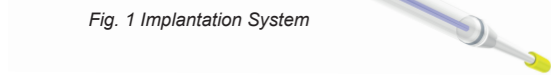


Fig. 1 Implantation System

Fig. 1 BD STENT - <https://ellacs.cz/en/bd-stent>

## RESULTS.

Thirteen biodegradable stents were placed during this report.

Of these, 3 patients were excluded, one who presented post-surgical stenosis, another who was obstructed and peritoneal implants were observed in its laparoscopic assessment and the last one because the placement of the device is recent and has not given the time to receive indicated therapies (chemotherapy, radiation therapy or surgery).

The total number of biodegradable patients and stents for this report correspond to 10, of which half are male and the rest are female with an average age of 68 years, where 6 (six) of the patients were placed in the distal third of the esophagus (gastro-esophageal union) and 4 (four) in the middle third.

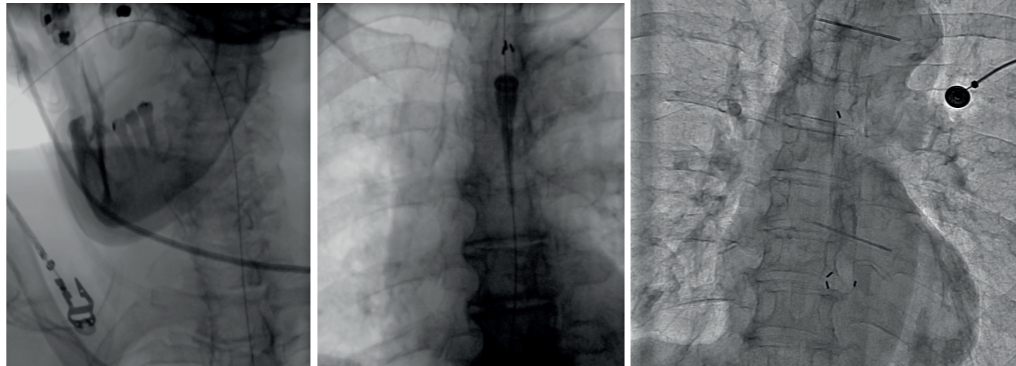
In none of the cases was there any technical difficulty in its placement and allowed 90% of patients to receive some of the indicated treatments (chemotherapy, radiation therapy and surgery). Only one patient could not receive any other treatment and died after 41 days.

As of August 1, 2022, 70% of patients are still alive.

3 patients died before August 1, 2022 with an average of days after placement of the stent of 81 days, in a range ranging from 41 to 150 days.

## Case N° 1:

73-year-old female, with an extensive tumor in the middle third. The placement of the biodegradable stent allowed him to receive treatment, tolerating a normal oral diet.



## DISCUSSION:

Patients diagnosed with locally advanced esophageal cancer in the middle and distal third (including tumors of the gastroesophageal junction) require treatments such as chemotherapy, radiation therapy or surgery for their management. During this period, food intake is essential for the adequate tolerance of these treatments, so keeping the oral route viable allows in a more physiological way to achieve these objectives.

We suggest that before resorting to a gastrostomy, consider placing a biodegradable stent, which allows oral intake to be maintained, as well as maintaining the quality of life, since eating is a basic reason for life.

Patients who responded to the treatments managed to eat their favorite foods again since this material is reabsorbed in an average of 6 months and 70% of the living patients to whom the prosthesis was placed have already lived more than a year.

Table N°1 - Locations of tumors in the esophagus.

Location		
Location	Frecuency	Percentage
Middle third	4	40%
Lower third	6	60%

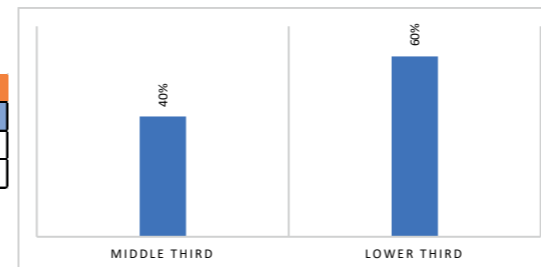
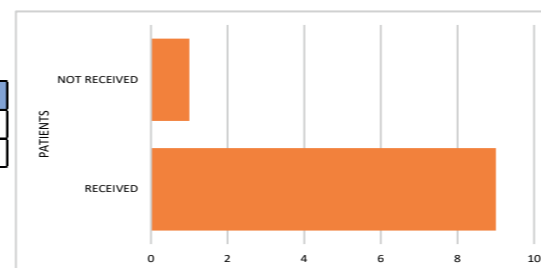
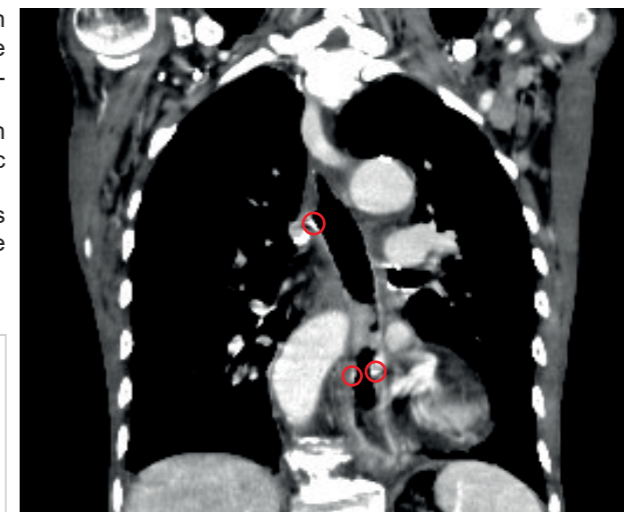


Table N°2 - Patients who were able to receive therapy (Qx, Rt, CX) after stent placement.

PATIENTS	FRECUENCY	PERCENTAGE
RECEIVED	9	90%
NOT RECEIVED	1	10%



Before stent placement



After stent placement (red areas correspond to device markers)



## CONCLUSION AND RECOMMENDATION:

The placement of a biodegradable stent in patients with esophageal cancer in the middle and distal third seems to be an adequate therapy that allows to maintain the oral route and the quality of life of the patient during the treatment of the indicated therapies, achieving up to a year later and more that the patient can eat his preferred foods.

It is necessary to increase the number of patients, as well as the experience of other centers to confirm our findings.

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