

## Retrograde dilation of a complex radiation-induced esophageal stricture through percutaneous gastrostomy

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### Abstract

Upper esophageal strictures occur in approximately 3-4% of patients who receive radiotherapy for head and neck cancers. The standart initial treatment is dilation by using bougie or through-the-scope balloon dilators. Endoscopic treatment requires the passage of a guidewire through the stricture which cannot be accomplished in some of the patients with complex strictures. Retrograde dilation of esophageal strictures through a mature percutaneous gastrostomy tract have been reported in a limited number of cases and small case series up to date and can be considered as a rescue treatment before considering surgery in such patients. Herein we report retrograde dilatation of a radiation-induced complex esophageal stricture through the percutaneous gastrostomy tract in a patient with operated larynx cancer. (*Acta gastroenterol. belg.*, 2015, 78, 246-247).

**Key words:** esophageal stricture, percutaneous gastrostomy, and retrograde dilatation.

### To the Editor,

Upper esophageal strictures occur in approximately 3-4% of patients receiving radiotherapy for head and neck cancers (1). The standart initial treatment is dilation with either bougie or through-the-scope balloon dilators. Endoscopic treatment requires the passage of a guidewire through the stricture but it cannot be accomplished in some of the patients with complex strictures. Retrograde dilation of esophageal strictures through a mature percutaneous gastrostomy tract have been reported in a limited number of cases and small case series and it can be considered as a rescue treatment method before considering surgery in such patients (2,3). Herein we report retrograde dilation of a radiation-induced complex esophageal stricture through the percutaneous gastrostomy tract in a patient with larynx cancer.

A 41-year-old woman underwent supracricoid laryngectomy and selective neck dissection for squamous cell cancer of the larynx infiltrating the right piriform sinus 8 months ago. She received a daily irradiation dose of 2 Gy, 5 days/week, with a total dose of 70 Gy in post operative period after endoscopic insertion of a 20 French bumper-type percutaneous gastrostomy tube (PEG) (Kangaroo™, Covidien, USA) for enteral feeding in case of development of an esophageal stricture. The patient had a complete tumor response to radiotherapy but unfortunately she developed dysphagia with a difficulty to swallow her own saliva. A flexible esophagoscopy re-

vealed nearly complete obstruction at the pharyngo-esophageal level hence the stricture could not be clearly visualized. A guidewire could not be advanced to the esophagus despite several attempts. Therefore retrograde dilation through the percutaneous gastrostomy tract was considered and written informed consent was obtained from the patient. The procedure was performed under conscious sedation with midazolam by two experienced gastroenterologists. Initially the gastrostomy tube was removed by pulling through the abdominal wall (tractional removal). The tract was dilated with a 12 mm dilation balloon advanced over a guidewire in to the stomach under fluoroscopic guidance because of non-availability of an ultra-slim gastroscope. Later on a standart upper gastrointestinal endoscope (Fujinon EG 530WR) with a 9.4 mm outer diameter was passed into the stomach and advanced in a retrograde way through the gastroesophageal junction up to the distal site of the esophageal stricture under fluoroscopic guidance (Fig. 1, 2). A guidewire was traversed through the stricture into the oropharynx where it was grasped manually and pulled out through the mouth. Finally the stricture was dilated with 7-11 mm Savary-Gilliard dilators over the guide wire and a nasogastric tube was placed in order to maintain luminal patency and facilitate access at the second dilation session. A 20 French replacement PEG tube (Kangaroo™, Covidien, USA) was placed through the gastrocutaneous tract. Enteral feeding was started in the next day with no complications.

Antegrade dilation of complex post-radiation proximal esophageal strictures may not be sometimes feasible because of inability to traverse a guidewire through the stricture. Surgery with esophageal resection is the mainstay of rescue treatment, however it carries a high risk of mortality and morbidity. Retrograde dilation is a minimally invasive, effective and relatively safe method which may obviate the need for surgery in such cases. Dilation of the PEG tract may be necessary in some cases if an ultraslim gastroscope is unavailable and does not

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Fig. 1. — A standart gastroscope was inserted through the PEG tract after dilatation by a 12 mm balloon.

lead to complications if the tract is mature enough ( $\geq 3$  weeks).

In summary, retrograde dilation of esophageal strictures through an existing mature percutaneous gastrostomy tract should be considered after failure of an antegrade approach, especially in patients with a high risk of surgery.

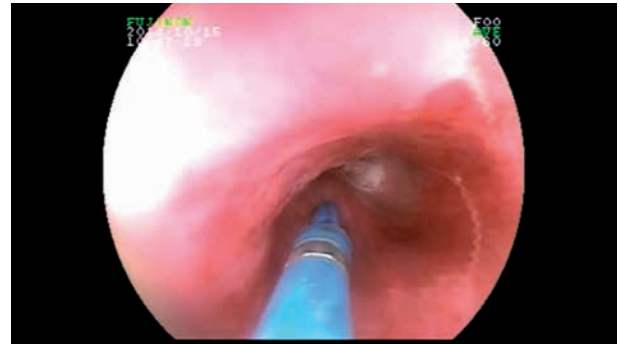


Fig. 2. — Retrograde view of the upper esophageal stricture. An ERCP balloon catheter was inserted for balloon occluded esophagography.

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