Esophacoil for palliation of recurrent malignant esophago-jejunal anastomotic stricture. Case reports

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Riassunto

RECIDIVE NEOPLASTICHE SU ESOFAGODIGIUNOSTOMIA: TRATTAMENTO CON PROTESI METALLICHE AUTOESPANDIBILI

La recidiva neoplastica su anastomosi esofago-digiunale è una condizione patologica che non può essere trattata in maniera radicale ma solo palliativa.
Nell'ambito della palliazione non vengono utilizzate né la terapia chirurgica né la radiochemioterapia. La prima è gravata infatti da una elevata morbilità e mortalità, mentre i risultati clinici della seconda sono discordanti tra di loro e soprattutto alleviano molto lentamente il quadro sintomatologico.
Il trattamento palliativo, mediante la apposizione di protesi metalliche autoespandibili (SEMS), è quello correntemente utilizzato in quanto assicura al paziente sia la immediata risoluzione della sintomatologia disfagica che una buona qualità di vita residua.
Nel presente lavoro sono riportati tre casi di recidiva neoplastica su anatomosi esofago-digiunale, trattati con successo mediante apposizione di protesi metalliche autoespandibili Esophacoil e vengono analizzati i dati attualmente disponibili in letteratura.

Abstract

Recurrent malignancy at esophagojejunal anastomosis represents an incurable stage of disease. Treatment options are limited. Surgery presents a high rate of morbidity and mortality and frequently fails to alleviate symptoms. Radiochemotherapy relieves dysphagia slovely and offers disappointing clinical results. The use of Self Expanding Metallic Stent (SEMS) has shown to be effective, safe and offers a good quality of residual life. We herein report three cases of malignant esophagojejunal anastomotic strictures successfully treated with metallic coil stent (Esophacoil).
Key words: Metal stent, anastomotic stricture, endoscopy, esophageal cancer, gastric cancer.

Introduction

Dysphagia after esophageal or gastric resection far cancer is observed in 20% of patients. In half it is correlated to a recurrent malignancy at esophago-jejunal anastomosis (1, 2). Due to limited life expectancy, palliative therapy is the preferred approach far these patients, it eliminates symptoms as well as dysphagia and denutrition and improves the patient's quality of life. Among different types of palliation, surgery presents a high rate of morbidity and mortality (3, 4), radiochemotherapy relieves dysphagia slowly and clinical results are disappointing (5). Endoscopic approach, with the insertion of a self-expanding metal stent (SEMS) across the esophago-jejunal stricture avoids further surgery and offers several advantages including immediate improvement of dysphagia and a good quality of residual life (6-12). We report successful palliation of 3 cases of esophago-jejunal strictures due to neoplastic anastomosis recurrences by the implantation of SEMS-Esophacoil.

Case 1

A 65 year old male underwent esophago-gastric resection with intrathoracic esophago-jejunal anastomosis (EEA/ILS stapler 21) for a distal third esophageal squamous cell carcinoma. Pathologic staging was T2N1MO. The resection margin of the esophagus was free of the residual tumor. The patient made an uneventful reco-

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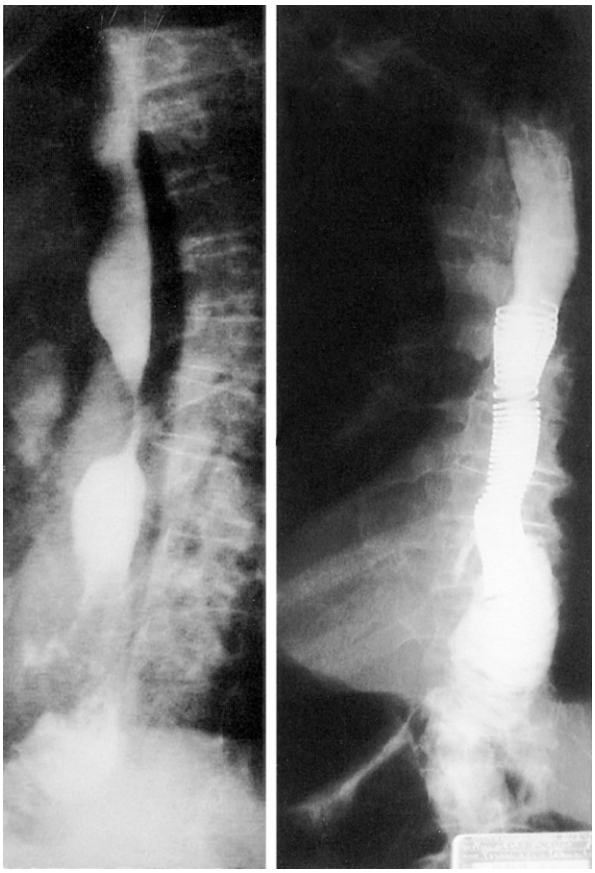

Fig. 1: Case 1. Barium swallow showing esophagojejunal anastomosis before (left) and after the Esophacoil insertion.

very and was discharged on 10 days post-operatively. Post-operative chemotherapy was performed within 3 weeks after surgery. Twenty one months later the patient represented with dysphagia far liquid food (grade I). A barium swallow detected an irregular anastomotic stricture at 33 cm. from the incisors wich extended distally for 4 cm. (Fig. 1 - left). Upper GI endoscopy with biopsies confirmed the neoplastic recurrence at the anastomotic site. CT scafi showed mediastinal metastasis. A SEMS-Esophacoil 18 mm in diameter and 10 cm long was inserted for palliation. The procedure for prothesis insertion was described in a previous parer (13).
Patient was discharged after 24 hours with the prothesis in site and completely expanded (Fig. 1 - right). Ten days following the endoscopic procedure, the patient referred dysphagia for solid food (grade I) until the patient's death at 5 months.

Case 2

A 71 year old male underwent esopghagogastrectomy with esophago-jejunal anastomosis (EEA/ILS stapler 25) for adenocarcinoma of the cardia. Pathologic staging was pT3N1M0. The patient made an uneventful recovery

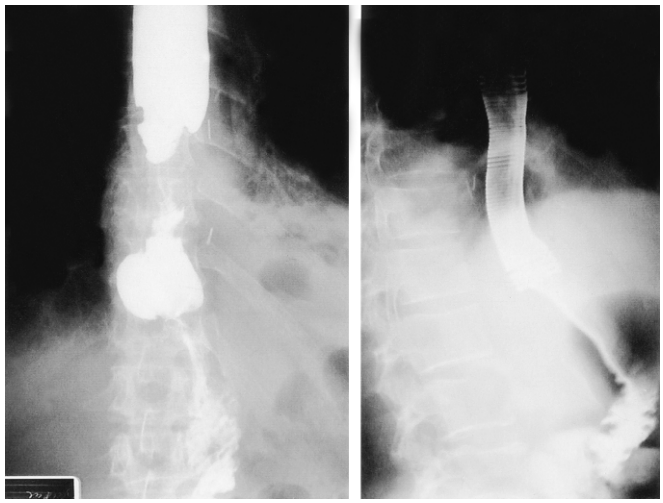

Fig. 2: Case 2. Barium swallow showing two strictures (29 cm. from the incisors and on the anastomosis) before (left) and after (right) the Esophacoil insertion.

and was discharged on 14 post-operative day. Adjuvant chemotherapy was not planned due to his age and general conditions. His follow-up evolution in the 3 months after operation was normal. The patient represented with complete dysphagia for liquid food (grade III) 14 months later. Barium swallow detected two strictures, one at 29 cm from the incisors and the second one on the anastomosis (Fig. 2/left). Upper GI endoscopy showed a narrowing covered with intact mucosa at 29 cm. while signs of neoplastic recurrence confirmed by biopsy were present at the anastomotic site. CT scan showed tickening of the esophagus and enlarged mediastinic nodes.
An Esophacoil, 18 mm in diameter and 15 cm long (Fig. 2/right) was inserted for palliation. The patient was discharged after 24 hours with the patent prothesis, barium swallow revaled free flow of contrast into jejunal segment. After 30 days from the endoscopic procedure the patient referred grade I dysphagia and x-ray revealed the stent remained patent. He died 3 months later for distant metastasis.

Case 3

A 65 years old male underwent esophagogastrectomy with esophago-jejunal anastomosis (EEA/ILS stapler 25) for a carcinoma of the cardias. Pathologic staging was T2N1MO. Post-operative follow-up was uneventful and the patient was discharged on 14th post-operative day. Adjuvant chemotherapy was performed. His follow-up evolution on the first 3 months after operation was normal. However 15 months later the patient represented with dysphagia for semisolid food (grade II). Barium swallow showed esophageal dilation and no passage of barium through esophagojejunal anastomosis. Upper GI endoscopy showed the presence of a stenotic anastomosis at 32 cm from the incisors not negotiable with a pediatric

endoscope (Olympus N 30). CT scan showed neoplastic recurrence on the anastomotic gite and liver metastasis. An Esophacoil, 18 mm in diameter and 10 cm long, was inserted. Due to incomplete expansion of the stent a balloon dilation (18 mm.) was performed 24 hours later. Patient was discharged with patent prosthesis and without dysphagia. Retrostemal pain treated with analgesics was experienced for 4 days. After 30 days a radiological control showed the stent yet patent and the patient referred grade I dysphagia (grade 0). Survival after stent insertion was of 4 months.

Discussion

The majority of patients with carcinoma of the esophagus and gastric cardia are not treatable for cure because of an advanced tumor stage at the time of diagnosis. The restoration of swallowing is the prime objective in such patients. The placement of a self expandible metal stent seems to be a good choice because it allows to solve the stenosis in one single session and definitely with a low complication rate and achieves an effective symptomatology palliation (3, 4).

SEMS implantation is alike effective in the palliation of recurrent neoplasia at esophago-jejunal anastomosis in patients treated for distal third esophageal or esophagogastric carcinoma (6/12). The endoscopic approach eliminates dysphagia and denutrition and improves the remainder of the patient's life.

Different kinds of SEMS have been used, Ultraflex, Esophacoil, Gianturco-Roch-Zstent, Wallstent. The first three types are the more commonly used (Tab. I). Out of 37 collected cases Ultraflex (6, 9, 10, 12) was used in 17 cases (46%), Esophacoil (8, 11, 12) including our patients in 11 (29.7%) Gianturco stent (6) in 5 cases (13.5%) and Wallstent (7) in 4 (10.8%). We preferred to lise Esophacoil after many considerations.

The high radial force that allows complete expansion in almost all cases followed by a rapid resolution of dysphagia, the adaptability of the spirals to the stricture with consequently greater adhesion to the neoplasia and lower percentage of dislocations (13-15), lower percentage of endoluminal neoplastic ingrowths due to the serrated matching of the spirals. As regard as the migration only in one paper (11) Esophacoil was found to be unsuitable because the migration appeared in two out of three treated patients.

In all our 3 patients we obtained a complete expansion of the stent, as reported for the palliative treatment of the oesophageal carcinoma (13-17). Similar results are reported in 80% of cases treated with Z-stent (18-20) in 89.5% with Wallstenet (21-23) and in about 50% using Ultraflex stent (12, 24, 25). For the last one the results should be improved till 70% after repeated pneumatic dilatations (24, 25). The reported percentages of stent migration are 5.9-7.5% using Esophacoil, 10% with Zstent, 4.5-12% with Wallstent and 4-10% using Ultraflex (13).

In conclusion, although the published data are numerically small, the palliative endoscopic therapy of anastomotic neoplastic recurrences, is a good approach to relieve dysphagia and to allow a better quality of residual life when curative treatment is not an option. The advantages are minimally invasive approach, the small number of complication and the fast recovery from acute symptoms. In this view, Esophacoil should offer some advantages the strongest expansion force yet achieved, spontaneous opening in almost all cases even in extremely resistant strictures, low percentage of migration and even if Esophacoil stent is uncovered seldom is detected endoluminal neoplastic ingrowth.

Tab. I – PALLIATION OF POST-OPERATIVE MALIGNANT ESOPHAGOJEJUNAL ANASTOMOTIC STRICTURES

Authors	*Year*	*PTS*	*Ultraflex*	*Esophacoil*	*Gianturco*	*Wallstent*
Bethge	(96)	4				4
Sherwood	(98)	1		1		
De Palma	(98)	5	5			
Law	(99)	3	3			
Olsen	(99)	3		3		
Siersema	(01)	10	5		5	
Riccioni	(02)	8	4	4		
Pres. series	(03)	3		3		
Total		37	17	11	5	4

References

1) Jackson J., Cooper D., Guvendi C.L., RecceSmith H.: *The surgiçal management of malignant tumours of the esophagus and cardia: a review of the resu1ts in 292 patients treated over a 15 year period (1961-1975)*. Br J Surg, 1979; 66:98104.

2) Watson A.: *Operable esophageal cancer: current resu1ts from the West*. World J Surg, 1994; 18:361-66.

3) Ell C., May A.: *Self-expanding metal stents for palliation of stenosing tumors of the esopagus and cardia: a critical review*. Endoscopy, 1997; 29:392-98.

4) Lambert R.: *An overview of the management of cancer of the esophagus.* Gastrointest Endosc North Am, 1998; 8:415-434.

5) Bidoli P., Salvini P.M.: *Carcinoma esofageo: radiochemioterapia*. Ann Ital Chir, 1993; LXIV:641-45.

6) Siersema P.D., Schrauwen L.S., van Blankenstein M., Steyerberg E.W., Van der Gaast A., Tilanus H.W., Dees J.: *Self-expanding metal stents for complicated and recurrent esophagogastric cancer*. Gastrointest Endosc, 2001; 54:579-86.

7) Bethge N., Sommer A., von Kleis D., Vakil N.: *A prospective trial of selfexpanding metal stents in the palliation of malignant esophageal obstruction after failure-of primary curative therapy*. Gastrointest Endosc, 1996; 44:283.86.

8) Sherwood P., Duggan A., Shek F., Clarke D., Freeman J.: *Esophagojejunal stenting for recurrent gastric carcinoma*. Gastrointest Endosc, 1998; 47:192-94.

9) De Palma G.D., Sivero L., Galloro G., Abruzzese P., Siciliano S., Richiello A., Catanzano *C.: La palliazione endoscopica della disfagia secondaria a recidiva dell'area anastomotica dopo resezione esofagea e gastrectomia totale per carcinoma.* Minerva Chir, 1998; 53:781-85.

10) Law S., Tung PHM., Kent-Man Chu E., Wong J.: *Self-expanding metallic stents for palliation of recurrent malignant esophageal obstruction after subtotal esophagectomy for cancer*. Gastrointest Endosc, 1999; 50:427-31.

11) Olsen E., Thyregaard R., Kill J.: *Esophacoil expanding stent in the management of patients with non respectable malignant esophageal Or cardiac neoplasm: prospective study*. Endoscopy, 1999; 31:417-20.

12) Riccioni M.E., Shah S.K., Tringali A., Ciletti S., Mutignani M., Perri V., Zuccalà G., Coppola R., Costamagna G.: *Endoscopic palliation of unresectable malignant oesophageal striature with self expanding metal stents: comparing Ultraflex and Esophacoil stent*. Digest Liver Dis, 2002; 34:356-63.

13) Naso P., Bonanno G., Aprile G., Trama G., Favara C., Greco S., Russo A.: *EsophaCoil for palliation of dysphagia in unresectable oesophageal carcinoma: short-and long-term results*. Digest Liver Dis, 2001; 33:653-58.

14) Goldin E., Beyar M., Safra T., Globerman O., Cracium I., Wengrower D. et al.: *A newself-expandable nickel-titanium coil stent for esophageal obstruction: a preliminary report*. Gastrointest Endosc, 1994; 40:64-70.

15) Wengrower D., Fiorini A., Valero J., Waldbaum C., Chopita N., Bandoni L. et al.: *Esophacoil: long-term results in 81 patiens*. Gastrointest Endosc, 1998; 48:376-382.

16) Segalin A., Bonavina L., Carazzone A., Cerini C., Pernacchia A.: *Improving results of esophageal stentino. A study on 160 consecutive unselected patients*. Endoscopy, 1997; 29:701-9.

17) Lee S.J., Song S.Y., Kang J.K., Park I.S.: *Comparison between esophacoil and silicone-covered self-expandable metallic stent in malignant esophageal stenosis*. Gastroenterology, 1996; 110:A549.

18) Wu W.C., Katon R.M., Saxon R.R., Barton R.E., Uchida B.T., Keller F.S.: *Silicone coverei self-expanding metallic stents for the palliation of malignant esophageal obstruction and esophagorespiratory fistulas. Experience in 32 patient. and a review of the literature*. Gastrointest Endosc, 1994; 40:22-33.

19) Ell C., May A., Hahn E.G.: *Gianturco Z-stents in the palliative treatment of malignant esophageal obstruction and esophagotracheal fistulas.* Endoscopy, 1995; 27:495-500.

20) Pescatore P., Manegold B.C.: *Results of coated Granturco Z-stents in the palliative treatment of malignant esophageal strictures.* Gastrointest Endosc, 1996; 43:A343.

21) Dorta G., Binek J., Blum A.L., Buhler H., Felley C.P., Koelz H.R. et al.: *Comparison between esophageal wallstent ultraflex stents in the treatment of malignant stenoses of the-esophagus and cardia*. Endoscopy, 1997; 29:149-54.

22) Knyrim K., Wagner H.J., Keymling M., Vakil N.: *A controlled trial an of expansile metal stent for palliation of esofageal obstruction due to inoperable cancer*. N Engl J Med, 1993; 329:1302-7.

23) Raijman I., Siddique I., Ajani J.: *Palliation of malignant dysphagia and fistulae with coated expandable metal stent: experience with 101 patients*. Gastrointest Endosc, 1998; 48:172-7.

24) May A., Hahn EG., Ell C.: *Self-expanding metal stents for palliation of malignant obstruction in the upper gastrointestinal tract. Comparative assessment of three stent types implemented in 96 implantations*. J Clin gastroenterol, 1996; 22:261-6.

25) Grund K.E., Storek D., Becker H.D.: *Highly flexible self-expanding meshed metal stents for palliation of maliginant esophago-gastric obstruction*. Endoscopy, 1995; 27:486-94.

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