GE J Port Gastrenterol. 2013;**20(4)**:183–185

Jornal Português de Gastrenterologia
Portuguese Journal of Gastroenterology
www.elsevier.pt/ge

ENDOSCOPIC SPOT

Endoscopic resection combined with radiofrequency ablation for early adenocarcinoma in Barrett's esophagus

Mucosectomia e radiofrequência na terapêutica de adenocarcinoma superficial em esófago de Barrett

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Received 11 October 2012; accepted 22 November 2012
Available online 11 January 2013

Barrett's esophagus (BE) is a premalignant condition that results from the replacement of the normal squamous lining of the esophagus by a columnar epithelium containing intestinal metaplasia (IM) on biopsy.

A 53-year-old man was followed at our institution for long-segment BE (Prague classification C1 M4) since 2007. His past medical history was unremarkable. There were no visible nodules or ulcerations within the BE at endoscopy in 2007 and 2008. Biopsies, performed according to the Seattle protocol, were negative for dysplasia.

The patient returned in 2011 for surveillance endoscopy. At this exam a flat, slightly elevated, lesion (Paris classification 0-IIa) with 8 mm of diameter was noted near the gastroesophageal junction (Fig. 1A). Targeted biopsies were compatible with intramucosal adenocarcinoma. Biopsy specimens of the remainder BE were negative for dysplasia.

Endoscopic mucosal resection (EMR) was performed with the patient under deep sedation with propofol. We used the Duette Multiband Mucosectomy Kit™ (Cook Medical, Limerick, Ireland), which consists of a modified variceal band ligator that allows passage of a hexagonal 1.5 cm × 2.5 cm snare made of braided wire alongside the releasing wires for the bands. The area to be resected was previously delineated with coagulation markings (Fig. 1B). The lesion was first suctioned into the ligating barrel, and the rubber band was deployed creating a pseudopolyp. Resection was carried out, in two fragments, with the ESG-100 electrosurgical unit (Olympus Europe, Hamburg, Germany), using pure coagulation current (Fig. 1C–F). There were no early or delayed complications. Specimens were pinned on cork and fixed in formalin. Pathologic examination revealed a moderately differentiated adenocarcinoma limited to the lamina propria (Fig. 2A–C). Lateral margins were not evaluable given the piecemeal technique.

At 6-weeks follow-up endoscopy there were no signs of residual lesion (Fig. 3A). Biopsies of the resection scar and Barrett's segment showed no dysplasia. Due to high risk of metachronous lesions ablation of the remaining BE was scheduled. Given the narrow tongue-like BE morphology we selected the focal ablation catheter to minimize potential stricture formation. At 12-weeks post EMR radiofrequency ablation (RFA) was carried out using the Halo[90] catheter (BÂRRX Medical Inc., Sunnyvale, CA, USA)

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http://dx.doi.org/10.1016/j.jpg.2012.11.001

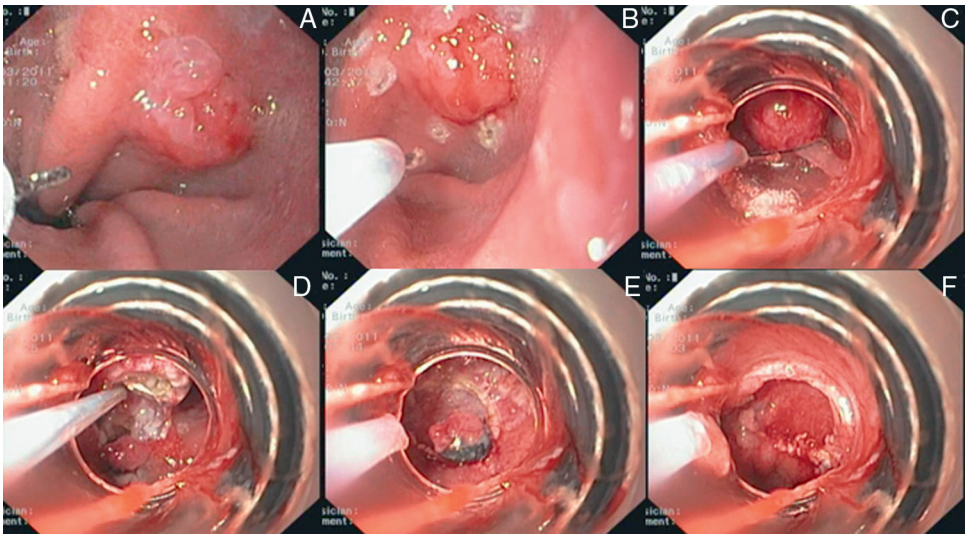

Figure 1 Endoscopic images of early cancer in BE treated by EMR. (A) 0-IIa lesion at the 1 o'clock position; (B) coagulation markers with tip of snare for orientation; (C–E) the marked area was suctioned into the cap and a rubber band was released. Resection was performed in two fragments; (F) EMR wound; no markers can be identified indicating an endoscopically complete resection.

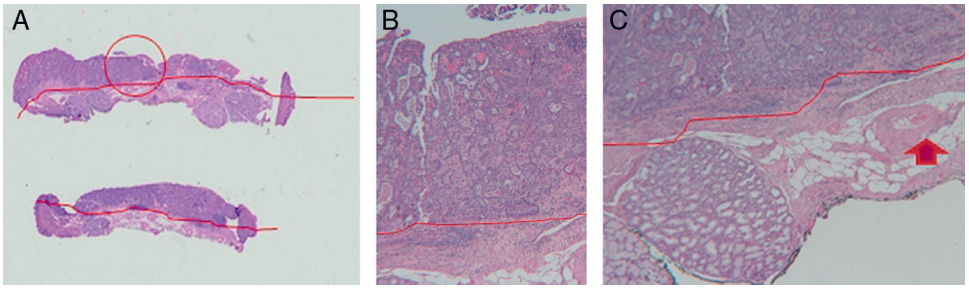

Figure 2 Pathological examination. (A–C) Microscopic view of the specimen showing a moderately differentiated adenocarcinoma confined to the lamina propria; there is no infiltration into the *muscularis mucosa* (red line) or lymphovascular invasion (red arrow).

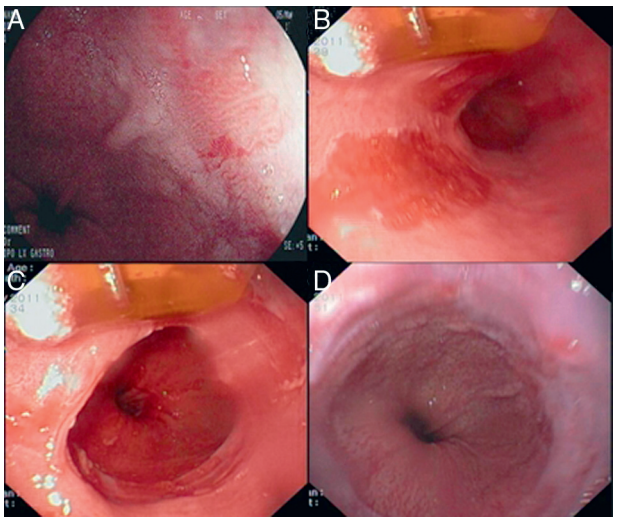

Figure 3 Follow-up endoscopies and RFA. (A) EMR scar without signs of residual/recurrent lesion; (B–C) RFA with the Halo[90] catheter; (D) esophagus with normal-appearing neosquamous epithelium.

fitted on the tip of a standard endoscope (Fig. 3B–C). Barrett's epithelium was positioned at the 12 o'clock position in the endoscopic video image. Areas were ablated twice by using the ''double-double'' 15 J/cm^2 regimen (2 consecutive ablations with 15 J/cm^2 each, with cleaning of the ablated area after the first pass). The patient was kept on esomeprazole (40 mg BID for 2 months and 40 mg/day thereafter) and follow-up at 2, 6, 9 and 12 months after RFA showed a esophagus covered with normal-appearing neosquamous epithelium (Fig. 3D). Biopsies were negative for IM and dysplasia.

In recent years, endoscopic therapy of early BE neoplasia has become a safe and effective alternative to esophagectomy.[1,2] Only patients with high-grade intraepithelial neoplasia or well and moderately differentiated intramucosal carcinoma without lymphatic involvement are eligible for curative endoscopic treatment.[3,4] Lesions showing invasion of the submucosa are associated with a significant risk of lymph node metastases and therefore patients should be treated surgically.[5] Due to the risk of synchronous and metachronous lesions in the remaining BE, complete ablation of the metaplastic epithelium should follow a successful resection of dysplastic lesions.

Ethical disclosures

Protection of human and animal subjects. The authors declare that no experiments were performed on humans or animals for this investigation.

Confidentiality of data. The authors declare that they have followed the protocols of their work center on the publication of patient data and that all the patients included in the study have received sufficient information and have given their informed consent in writing to participate in that study.

Right to privacy and informed consent. The authors must have obtained the informed consent of the patients and/or subjects mentioned in the article. The author for correspondence must be in possession of this document.

Conflicts of interest

The authors have no conflicts of interest to declare.

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