

Band Ligation Resolves Esophageal Adenocarcinoma Overlying Esophageal Varix

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ABSTRACT

When early-stage esophageal cancer overlies an esophageal varix, endoscopic mucosal resection is not safe because of risk of variceal bleeding. We report a 59-year-old man with alcohol-related liver cirrhosis and an 8 mm Stage I adenocarcinoma in the distal esophagus overlying a large varix. After a multidisciplinary review, we performed band ligation of the nodular adenocarcinoma and varix. On follow-up upper endoscopy 2 months after banding, no evidence of residual adenocarcinoma was visualized. Pathologic biopsies returned negative for malignancy. Band ligation of early-stage esophageal adenocarcinoma may prove an effective option for patients who have nodular malignancies overlying an esophageal varix.

INTRODUCTION

In 2022, 20,000 people are predicted to be diagnosed with esophageal cancer—16,000 of whom are expected to die.¹ Endoscopic mucosal resection or endoscopic submucosal dissection is the recommended endoscopic treatment for early-stage esophageal malignancy.^{2,3} In general, endoscopic resection of mucosal pathology should not be performed in the context of an underlying varix because of the risk of bleeding.

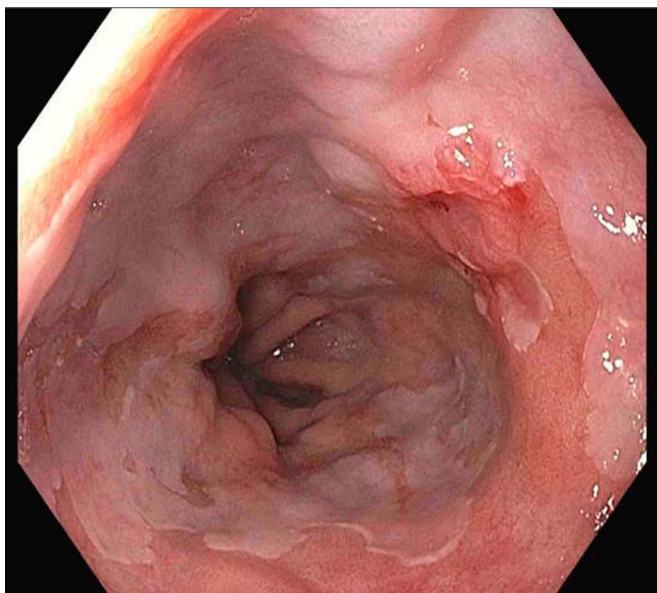


Figure 1. Endoscopy revealing a 10 mm cancerous nodule overlying the varix.

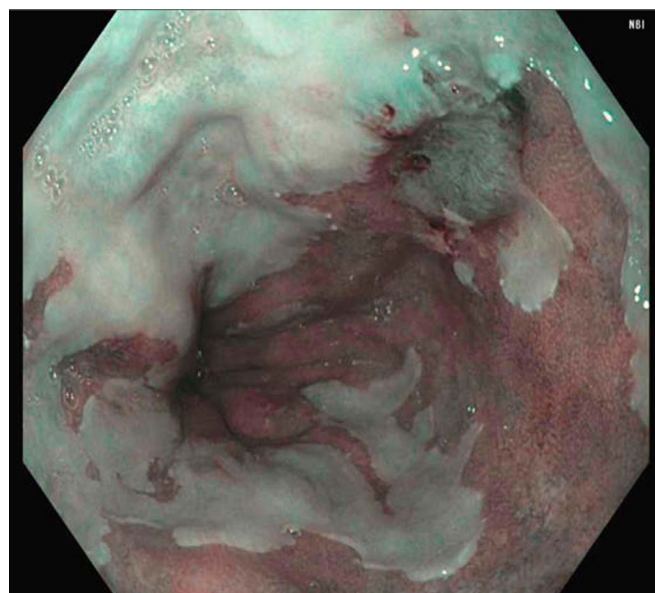


Figure 2. The 10 mm cancerous nodule viewed under narrow band imaging (NBI).

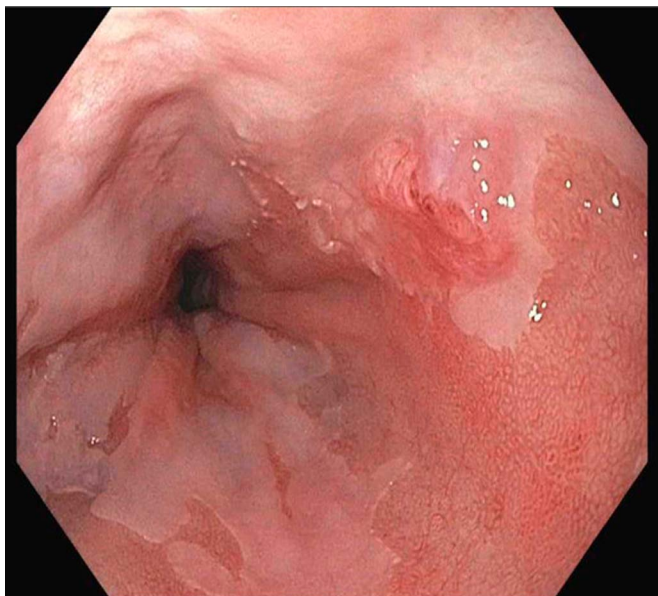


Figure 3. On follow-up endoscopy, the cancerous nodule measured 5 mm after the first banding. The varix was still present.

We present a case in which we treated an early esophageal cancer overlying a large varix with band ligation resulting in an N0 resection. Although reports have discussed band ligation as a treatment for early-stage esophageal cancer when surgery was contraindicated, to the best of our knowledge, this case is the first to report band ligation as an effective treatment of an early esophageal cancer overlying a large varix in an otherwise poor surgical candidate.⁴⁻⁶

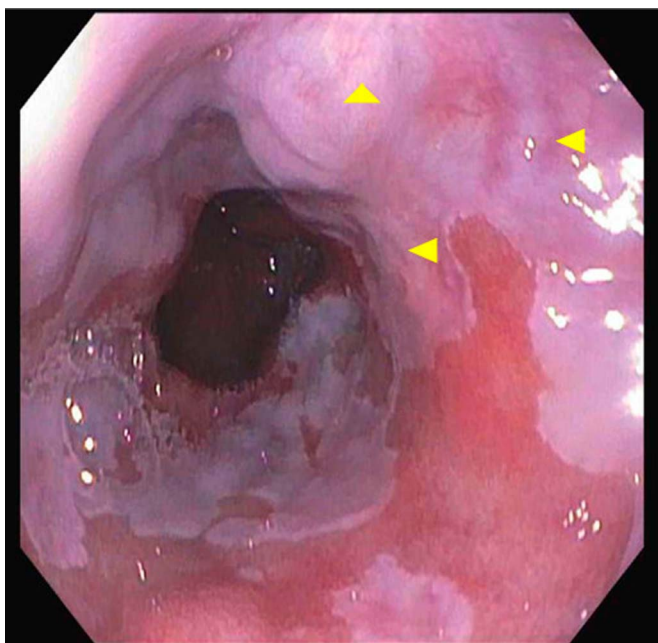


Figure 4. Mucosal scar (arrows) from prior band ligation without evidence of residual tumor.

CASE REPORT

A 59-year-old man with a history of decompensated alcohol-related liver cirrhosis complicated by esophageal varices with prior variceal bleeding was referred to our institution for endoscopic management of a cancerous lesion in the distal esophagus discovered on esophagogastroduodenoscopy (EGD). He had a history of prior tonsillar cancer (post-tonsillectomy), papillary thyroid carcinoma (post neck dissection and thyroidectomy), 40 pack-year of smoking, and previous alcohol abuse with sustained sobriety.

On EGD and endoscopic ultrasound, the patient was found to have long segment Barrett's esophagus (BE) ranging from 28 cm from the incisors to the gastroesophageal junction at 37 cm and an 8 mm nodule at 34 cm from the incisors. In addition, large Grade III varices were noted, and the mucosal nodule was overlying a large varix, which was confirmed on endoscopic ultrasound. Consequently, the nodule was not resected, and biopsies were obtained, which returned consistent with T1 esophageal adenocarcinoma with a background of BE.

Our case was discussed comprehensively at a multidisciplinary thoracic tumor board conference, where a treatment plan of primary endoscopic banding combined with radiation therapy was decided upon given the patient's poor surgical candidacy and high risk of morbidity and mortality with other treatments.

One month later, the patient returned for therapeutic EGD during which the nodule—now measuring 10 mm—was ligated along with the underlying large esophageal varix (Figures 1 and 2). On follow-up EGD, the nodule had reduced in size to 5 mm but was still present and overlying the varix (Figure 3). We banded the nodule and varix again.

On follow-up EGD 1 month after the second banding, there was neither evidence of the nodule nor sign of residual adenocarcinoma (Figure 4). Pathology from biopsies of the distal esophagus, including the nodule's prior site, demonstrated BE with no evidence of adenocarcinoma or dysplasia. Despite likely resection of the early esophageal adenocarcinoma with band ligation, the patient was encouraged to proceed with planned radiation therapy.

DISCUSSION

To the best of our knowledge, this case is the first reporting band ligation of early esophageal adenocarcinoma overlying large varices in the context of poor surgical candidacy and increased risk of morbidity and mortality with other endoscopic options. Palmer et al performed a retrospective study of BE management in the presence of varices that demonstrated the safety of band ligation in treating BE with high-grade dysplasia in the context of varices. However, complete resolution of BE required other ablative interventions—banding alone did not resolve BE but provided opportunities for resection or ablation on the resolution of the varices.⁷

In 2012, Salord et al reported that band ligation resolved a patient's T1 esophageal squamous cell carcinoma without metastasis.⁴ Other studies have demonstrated success with band ligation to treat precancerous and early-stage esophageal cancerous lesions.^{5,6} Thus, our experience is consistent with other reports of the efficacy of banding early-stage esophageal cancers when other methods are contraindicated.

On our index endoscopic findings, we presented this case to a multidisciplinary conference where a comprehensive review concluded that the best approach to our patient's treatment should include variceal band ligation as an attempt to resect the nodular adenocarcinoma and simultaneously to treat his varices while he awaits radiation therapy. We believe band ligation successfully removed the lesion because the nodule was mucosally based and could be grasped within the banded varix in its entirety. We hypothesize that the cancerous nodule sloughed off along with the variceal mucosal tissue captured within the band.

Despite our patient's positive outcome, this approach carries certain limitations. Given the nature of how banded tissue sloughs off over time, we were unable to collect the resected specimen for a pathological review. Consequently, confirmation of remission would depend largely on surveillance endoscopy with biopsies to monitor for residual cancerous or dysplastic lesions. Salord et al⁴ cited similar limitations—the lack of histological studies means the extent of tumor involvement and risk of spread to surrounding lymph nodes cannot be determined. Further studies analyzing the efficacy of this treatment option among this high-risk patient demographic are warranted and may help guide management plans for patients like ours in the future.

In conclusion, band ligation of esophageal cancer may prove to be an effective treatment option for patients who have early-stage, noninvasive cancerous lesions overlying esophageal varices when more definitive options such as endoscopic mucosal resection or endoscopic submucosal dissection are not viable.

DISCLOSURES

Author contributions: All 3 authors contributed to each of ICMJE's 4 criteria for authorship. T. Gardner is the article guarantor.

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Informed consent was obtained for this case report.

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