Buried adenocarcinoma hidden by normal squa-
mous epithelium in Barrett’s esophagus: should we enlarge the margins for endoscopic resections?

Endoscopic submucosal dissection (ESD) is an effective technique to resect neopla-
sia in Barrett’s esophagus, including for lesions larger than 15 mm [1]. Neverthe-
less, in the area surrounding the Barrett’s neoplasia, buried mucosa with various
grades of dysplasia or adenocarcinoma can occur under normal squamous epi-
thelium before or after treatment (0%–28%) [2,3]. Buried components appear ex-
tremely difficult to detect endoscopically, which can result in the lesion size being
underestimated [4]. Because of this invis-
ible spread, we should enlarge our resec-
tion margins in order to avoid incomplete (R1) resections.

We report two cases of adenocarcinoma
in Barrett’s esophagus, with no history of
previous treatment, which had buried components. Both lesions were carefully
examined using white-light endoscopy and virtual chromoendoscopy to evaluate
the pit and vascular patterns (Fig. 1). The edges were delineated with coagula-
tion dots respecting a 10-mm security
margin, as previously suggested [5] (Fig. 2). The two ESD specimens meas-
ured 35×25 mm and 25×28 mm after
fixation.

The first lesion was a well-differentiated
adenocarcinoma invading the submucosa
to a depth of 150 µm (sm1). The distance
between the deepest tumoral gland and
the margin was over 500 µm. On the later-
al oral edge, a 5-mm section of the adeno-
carcinoma was mostly buried and covered
by normal squamous epithelium, but ap-
peared slightly elevated endoscopically (Figs. 1, 2). The lateral resection margin
was composed of a normal squamous epi-
thelium on the oral side (Fig. 3) but
showed high grade dysplasia on the anal
side despite the 1-cm margin (Fig. 4).

The second lesion was an adenocarcinoma
invading the mucosa (m2) with various
buried components composed of intes-
tinal metaplasia (Fig. 5) but also high
grade dysplasia and adenocarcinoma (Fig. 6). The deep and lateral 1-cm mar-
gins were free of dysplasia.

To summarize, endoscopists must be
aware of the potential of buried extension
surrounding Barrett’s neoplasia. This ex-
tension, with a normal superficial pattern,
is very difficult to detect endoscopically.
Therefore this justifies enlarging the
security margins to more than 10 mm to
achieve R0 resections.

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Competing interests: None

Fig. 1 Gastroscopy images with the Fujinon high-definition LASEREO system showing: a white mucosa, which corresponds to the normal squamous epithelium, and red mucosa, which corresponds to Barrett’s esophagus, and the elevated suspect lesion on the left side of this. b, c on virtual chromoendoscopy, enhancement of the distinction between the columnar and squamous mucosa, along with the irregular architecture of glands with vascularization.

Fig. 2 The first specimen after fixation. a On the right side of the specimen, the lesion is elevated and covered by a normal squamous epithelium (NSE); b A schematic view of the specimen with a nodular ulcerated lesion (red) in the center; to the right of this, NSE (green) and buried adenocarcinoma covered by NSE (red–green); to the left, Barrett’s esophagus with high grade dysplasia (HGD) and low grade dysplasia (LGD) (orange). Note: the blue dots that correspond to the coagulation dots giving a safety margin of 10 mm around the neoplastic area.
Fig. 3  Histological views of nondysplastic Barrett’s esophagus showing: 
a normal esophageal mucosa and submucosa;  b  Barrett’s esophagus without dysplasia (*) with normal esophageal glands (**) beneath.

Fig. 4  Histology of the margins of the first specimen showing:  a  buried intramucosal well-differentiated adenocarcinoma, with glands containing intraluminal necrosis, and inflammatory stroma;  b  submucosal invasive carcinoma to 150 µm (black arrow) but with deep resection margins that are free of disease (*);  c  buried adenocarcinoma beneath a normal squamous epithelium.
References


2 Chabrun E, Marty M, Zerbib F. Development of esophageal adenocarcinoma on buried glands following radiofrequency ablation for Barrett’s esophagus. Endoscopy 2012; 44 (Suppl. 02): E392


Bibliography

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