The Role of Endoscopic Mucosal Resection (EMR) in Barrett’s

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Case

• 72 yom GERD/Barrett’s x 20 years
  • Extensive CAD (stent x 5, CABG x 2). asymptomatic

• Surveillance EGD q 3-5 years

• 2012: High Grade Dysplasia on random bx
  • No nodules commented on
  • Surgery consult: “high risk” given CAD
Options for BE with HGD/mucosal cancer

- Esophagectomy
- Ablation (PDT, RFA, Cryo)
- Endoscopic Resection
- Observation/Surveillance (HGD)?

Goals of Endoscopic Therapy

- Precise imaging to localize neoplasia
- Complete removal of tumor for staging
  - Endoscopic Resection with Path Staging
- Assessment of risk for distant (nodal) mets
  - T1m vs deeper, differentiation, lymphovasc inv
- Eradication of underlying Barrett’s
  - RFA, Cryo, resection
- Minimize morbidity/mortality
Barrett’s Esophagus with Dysplasia: Then (1990’s)

Metaplasia
Low-grade dysplasia
High-grade dysplasia
Adenocarcinoma

Can’t See Dysplasia → Surgery or Intensive Surveillance

Cameron, A, Am J Gastro 1997;92:586

BE Now: Enhanced Imaging (HD, NBI)
See Dysplasia, Treat Dysplasia
Technique for Endoscopic Resection

- Cap-suction methods
  - Cap+snare
  - Cap+band ligation
- Endoscopic Submucosal Dissection (ESD)

Band Mucosectomy

- Image target
- +/- inject/lift
- Band
- Snare
- Retrieve
- Pin Path
Cap-Snare Mucosectomy

- Image target
- *Inject/lift
- Loop Snare
- Suction/snare
- Retrieve
- Pin Path

Inject-Suction-Cut
Inspect Base

Pin Path: Margins, Grade, lymphovasc Invasion

THINK LIKE A SURGICAL ONCOLOGIST!!!
Multi-band Mucosectomy

Cumulative Size: 3 x 7cm!!

Single Band Mucosectomy
Long term outcomes or Endoscopic Therapy

- Treatment: EMR + Ablation (PDT, Coagulation)
  - 349 pts (61-HGD, 288 T1 cancer)
  - Follow up 63.6 months
- Initial Complete response: 96.6%
- Metachronous lesions at f/u 21.5%
  - 18% retreated endoscopically with CR
  - 3.7% required surgery for ER failure
- Overall survival 86% at 5 years (NO deaths due to eso cancer)

Endoscopic Resection alone for Early Esophageal Adenocarcinoma

- 100 pts, all T1 “low risk” carcinoma
- 1.47 resection/pt
- No major morbidity/mortality
  - 11% minor morbidity
  - Minor bleeding rx’d endo
  - Stricture rx’d by dilation
- Initial CR 99%
  - Metachronous recurrence 11%
  - All treated endoscopically
- 5 yr survival 98%
  - 2 non cancer related

Kaplan–Meier plot for estimating the overall survival compared to the average German population with matched gender and age (dashed line) (p = not significant).
SEER Endoscopic Treatment versus Surgery in Early BE Neoplasia

- 1618 pts HGD or T1aNO identified: 1998-2009
- Stage, treatment, outcome identified from CMS-linked SEER database
- 306 (19%) Endoscopic RX
- 1312 (81%) Surgical RX

Trends in Endoscopic vs Surgical Rx
HGD and T1 cancer
Limitations of EMR

- En Bloc resection <1-2cm size
- Multi-focal resection: ? Lateral margins
- Stricture if > 50% circumference
- The completely resected “high risk” lesion
  - T1sm, poorly differentiated, L/V invasion
  - ¿Esophagectomy to get LN status?

Back to our Case

- Completed EMR
  - T1a well diff adenoca, margin neg., no l/v invasion
  - Relook 3, 6, 9, 12 months, No BE, No Dysplasia
  - Mild Stricture, dilated x 2, resolved
Summary: Barrett’s Endoscopic Rx

“A combination of endoscopic resection and ablation is the preferred therapy for most patients with high-grade dysplasia or intramucosal adenocarcinoma,… survival with endoscopic therapy is equivalent to that after esophagectomy.”

Hermansson M, DeMeester SR
Surg Clin N Am 2012;92:1155