Everything Esophagus: Barrett’s Esophagus

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PRACTICE GUIDELINES

Updated Guidelines 2008 for the Diagnosis, Surveillance and Therapy of Barrett’s Esophagus

Kenneth K. Wang, M.D. and Richard E. Sampliner, M.D.
The Practice Parameters Committee of the American College of Gastroenterology

(Am J Gastroenterol 2008;103:788–797)

ACG Clinical Guideline: Diagnosis and Management of Barrett’s Esophagus

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The Most Important Thing Stayed the Same
Adenocarcinoma – A Disease with a Rapidly Increasing Incidence

Not Much Progress Being Made…

Trends in EAC

Most Presentation is Late-Stage

We are Losing the Battle Against Esophageal Adenocarcinoma
Who With GERD Needs Scoped?

• OLD
  – The utility of screening is unclear
  – Risk factors may help pick who should get scoped

• NEW
  – Screening for BE may be considered in men with chronic (>5 yrs) and/or frequent (weekly or more) GERD symptoms PLUS 2 or more of the following: age >50, Caucasian race, central obesity, tobacco, first degree relative with BE or cancer
Why Exclude Women?

Shaheen NJ et al. Ann Intern Med 2013, original
Data by Rubenstein et al 2012.
How Should They Be Scoped?

• OLD
  – Standard Per Oral Upper Endoscopy

• NEW
  – Standard Per Oral Upper Endoscopy OR Unsedated Transnasal Endoscopy
What is the Yield of TNE in a Primary Care Population?

<table>
<thead>
<tr>
<th>Characteristics (n = 426)</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Esophagitis</td>
<td>143 (34)</td>
</tr>
<tr>
<td>LA Grade A</td>
<td>73 (51)</td>
</tr>
<tr>
<td>LA Grade B</td>
<td>46 (32)</td>
</tr>
<tr>
<td>LA Grade C</td>
<td>18 (13)</td>
</tr>
<tr>
<td>LA Grade D</td>
<td>3 (2)</td>
</tr>
<tr>
<td>Hiatal Hernia</td>
<td>180 (43)</td>
</tr>
<tr>
<td>Barrett’s Esophagus</td>
<td>18 (4)</td>
</tr>
<tr>
<td>Esophageal Mass/Nodularity</td>
<td>8 (2)</td>
</tr>
<tr>
<td>Gastritis</td>
<td>15 (4)</td>
</tr>
</tbody>
</table>

Peery AF, Shaheen NJ. Jobe B. Gastrointest Endosc 2012.
How Often Do They Need Scoped?

- **OLD**
  - Repeat within one year to confirm diagnosis and exclude dysplasia
  - Then every 3 years with standard per oral endoscopy

- **NEW**
  - Make sure the patient understands risks and benefits of surveillance, then
  - Every 3-5 years with high resolution endoscopy
Many of those developing cancer have no or trivial reflux symptoms.

- Series of esophageal carcinoma demonstrate 20-51% of subjects have no or infrequent reflux symptoms
- Removal of those subjects from our endoscopy pool cuts the number of “findable” cancer by 40%.

Case-control study in the KP Bay Area population

- **Cases**: Pts with known BE who died of EAC, 1995-2009
- **Controls**: Pts from the pop with BE who did not die of EAC

- Matched for age, sex, and duration of f/u

- **Exposure**: Surveillance endoscopy in 3 yrs prior to index date

- Basic idea is that those dying of CA should be less likely to have surveillance exam than those who did not

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**Impact of Endoscopic Surveillance on Mortality From Barrett’s Esophagus–Associated Esophageal Adenocarcinomas**

**Table 4. Associations Between Surveillance Endoscopy and Fatal Adenocarcinomas**

<table>
<thead>
<tr>
<th></th>
<th>Cases</th>
<th>Controls</th>
<th>OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In surveillance n (%)</td>
<td>In surveillance n (%)</td>
<td></td>
</tr>
<tr>
<td><strong>Unadjusted</strong> 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surveillance examination within 3 years</td>
<td>21 (55.3)</td>
<td>61 (60.4)</td>
<td>0.82 (0.35-2.00)</td>
</tr>
<tr>
<td><strong>Controlling factors</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dysplasia status (main model) b</td>
<td>21 (55.3)</td>
<td>61 (60.4)</td>
<td>0.99 (0.36-2.75)</td>
</tr>
<tr>
<td>Barrett’s esophagus length c</td>
<td>21 (55.3)</td>
<td>61 (60.4)</td>
<td>0.97 (0.38-2.50)</td>
</tr>
<tr>
<td>Dysplasia status and Barrett’s esophagus length b,c</td>
<td>21 (55.3)</td>
<td>61 (60.4)</td>
<td>1.14 (0.39-3.32)</td>
</tr>
<tr>
<td>Excluding cases with 7–12 months between Barrett’s esophagus and cancer diagnoses, adjusted for dysplasia status b,d</td>
<td>19 (52.8)</td>
<td>57 (60.0)</td>
<td>0.95 (0.32-2.70)</td>
</tr>
<tr>
<td>Excluding cases with high-grade dysplasia before 3-year surveillance interval, adjusted for other dysplasia status b,d</td>
<td>16 (55.2)</td>
<td>38 (52.8)</td>
<td>1.00 (0.34-2.94)</td>
</tr>
<tr>
<td>Excluding cases with gastroesophageal junction adenocarcinomas, adjusted for dysplasia status b,d</td>
<td>19 (61.3)</td>
<td>57 (67.1)</td>
<td>0.88 (0.29-2.67)</td>
</tr>
<tr>
<td>Excluding cases unable to be treated, adjusted for dysplasia status b,d</td>
<td>18 (56.3)</td>
<td>54 (64.3)</td>
<td>0.80 (0.27-2.34)</td>
</tr>
<tr>
<td>Excluding cases with treatment-related mortality or unable to be treated, adjusted for dysplasia status b,d</td>
<td>14 (51.9)</td>
<td>47 (65.3)</td>
<td>0.46 (0.13-1.64)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>38 (100)</td>
<td>101 (100)</td>
<td></td>
</tr>
</tbody>
</table>
Yikes! My Patient Has Dysplasia! What Should Be Done?

• OLD
  – Low-Grade Dysplasia: Repeat endoscopy in 6 months, then annually
  – High-Grade Dysplasia: Repeat every 3 months, or intervention with either esophagectomy or photodynamic therapy

• NEW
  – Confirm Diagnosis, then
  • Low-Grade Dysplasia: Radiofrequency Ablation
  • High-Grade Dysplasia: Radiofrequency Ablation
RFA

RCT of 127 Subjects with LGD & HGD

- Intervention: RFA+PPI or Sham+PPI (2:1)
- Follow-up: 12 mos
- Assessment: Bx’s q3 mos (HGD)/ 6 mos (LGD)

1° Outcomes:
  - Ablation of all dysplasia:
    - 81% of HGD
    - 91% of LGD
    - app 20% of controls
  - Complete eradication of IM (77% of Rx, 2% Sham)

SEs: Strictures in 6% of subjects

3 year Durability

Durability of Eradication of IM Without Intervention

Shaheen NJ et al, Gastroenterology 2011.
LGD is an Indication for Endoscopic Intervention

**SURF study**

RCT, n=140, surveillance EGD vs. ablation with RFA

– Primary outcome: occurrence of HGD/EAC

Phoa KN et al. JAMA 2014
My Patient Has a Mucosal Cancer! What Should Be Done?

• OLD
  – Esophagectomy

• NEW
  – Confirm Diagnosis, then
    • Endoscopic Mucosal Resection of the Cancer
    • Followed by Radiofrequency Ablation
What’s Next?
Endoscopic Therapy is Sexy, but it does not Solve the “95% Problem”

Proportion of EAC Patients with Known BE

- No BE
- BE

Proportion of EAC Patients with Known BE

- No BE
- BE

It is not for lack of trying…

224 GI’s attending Board Review Courses

Can We Prevent Cancer in Barrett’s Esophagus?

YES!!!
But probably not by doing what we have been doing…
The Way Forward…
When You Are Looking for a Needle in a Haystack, Make the Needle Bigger, the Haystack Smaller, or Get a Stronger Pitchfork.
Making the Needle Bigger...
The Pitchforks of the Future?
How Good in the Sponge?

- 501 subjects screened in a general medicine population, EGD used as gold standard

- For BE of ≥ 1 cm:
  - Sensitivity – 73.3% (44.9-92.2%)
  - Specificity – 93.8% (91.3-95.8%)

- For BE of ≥ 2 cm:
  - Sensitivity – 90.0% (55.5-99.7%)
  - Specificity – 93.5% (90.9-95.5%)

Conclusions

• The epidemiology of both BE and EAC is unfavorable and worrisome

• Current screening and surveillance practices in BE are limited by poor risk stratification

• Self-congratulation for improved care in subjects with known BE is largely unwarranted

• Doing we have been doing, but harder, is unlikely to result in success

• Relatively small changes in our current paradigm would result in incremental improvements

• A “disruptive technology” is needed to improve our approach to preventing esophageal adenocarcinoma
“The Best Day in the Life of any Barrett’s Patient is the Day their Endoscopist Dies.”

-Steve Sontag, MD