Barrett’s Esophagus: An Update

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Disclosures

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Case

- A 62 year-old male presents with recent diagnosis of Barrett’s esophagus.
- He has had mild heartburn, which is controlled on antacids.
- Denies any dysphagia or regurgitation.
- Last endoscopy was 6-months ago showing a 2-cm columnar mucosa which on biopsy showed intestinal metaplasia without dysplasia.
What is the next step in care of this patient?

1. Continue current tx and endoscopy with bx’s in 3-years
2. Change to BID PPI and repeat endoscopy with bx’s in one year
3. Endoscopy with repeat bx’s now
4. Change to once daily PPI tx and repeat biopsies in 3-years
5. pH monitoring on PPI therapy to ensure normalized esophageal acid exposure
Regarding the statements below, which is the correct option?

- PPI therapy will reduce the length of columnar mucosa in patients with Barrett’s esophagus
- Prospective randomized trials have shown reduced incidence of dysplasia and cancer with PPI use in this group of patients
- Randomized trials and society guidelines favor the use of ASA and NSAIDS as chemoprevention in patients with Barrett’s esophagus
- There is adequate evidence to support the use of PPI therapy for symptom control and reducing risk of dysplasia in Barrett’s esophagus
- Antacid and H2RA’s are reasonable alternative in patients with Barrett’s esophagus as long as patients’ symptoms are controlled
GERD Severity

Symptoms

Esophagitis

Barrett’s
Barrett’s Esophagus

Columnar distal esophagus

Intestinal Metaplasia
Rising Incidence of Esophageal Adenocarcinoma

Barrett’s Esophagus: The Prague Classification

Approximately Half of Patients With Reflux Symptoms Have Esophagitis

Endoscopic findings in 97 patients presenting with reflux symptoms

- Esophagitis (45.3%)
- Barrett's Esophagus (12.3%)
- No Esophagitis (42.3%)

Abdominal Obesity-Risk Factors

Common Symptoms of Barrett’s

• Similar to GERD
  – Heartburn
  – Regurgitation

• Less common
  – Dysphagia
  – Odynophagia
Less Symptoms in Barrett’s Age Related

Importance of Barrett’s
Non-dysplastic Barrett’s: Cancer Risk

Low Risk of Neoplasia in Barrett’s Esophagus

- Hameeteman 1989 (n=50) - 1.9
- Streitz 1998 (n=149) - 1.3
- Bani Hani 2000 (n=307) - 0.9
- Sharma 2006 (n=618) - 0.5
- De Jonge 2008 (n=14,231) - 0.4
- Wani 2010 (n=1,204) - 0.3
What is the Real Risk?

- Nationwide, population-based, cohort study of all Barrett’s patients in Denmark
- 11,028 BE pts; median follow up: 5.2 years
- Overall cancer risk: 0.12% per year

Non dysplastic BE: 0.1%
Low grade dysplasia: 0.5%

## Endoscopic Surveillance of Barrett’s and Outcome

<table>
<thead>
<tr>
<th>Author</th>
<th>Surveillance n</th>
<th>% Survival</th>
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<td>van Sandick</td>
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*Exclude 4 high grade dysplasia $p=0.09$

Do Patients With Barrett’s Die From Esophageal Cancer?

- 166 patients with BE
- Mean follow up: 9.3 years
- Only 2.5% died from esophageal cancer
- Raises doubts if surveillance would help patients with BE

• Endoscopic surveillance be performed in patients with BE

• Weak recommendation

• *Surveillance intervals*:
  - No dysplasia: 3-5 years
  - LGD: 6-12 months
  - HGD: 3 months (if no therapy)

• Weak recommendation
Decreasing Cancer Risk With Increasing Number of Consecutive EGDs Showing No Dysplasia

- 1401 BE patients, no dysplasia
- Average age: 59 years; 87% men

Treatment Options for Barrett’s

- Medication
- Chemoprevention
- Surgery
- Ablation
Why Treat Barrett’s?

- Relief Symptoms
- Regress Barrett’s Epithelium
- Prevent Cancer
GERD Severity

Symptoms

Esophagitis

Barrett’s
Barrett’s Length Correlates With Acid Reflux

% Total Time pH < 4

$r=0.62$
$p=0.0005$
Meta-Analysis

ENDOSCOPIC HEALING WITH PPI'S

% Total healed

Weeks

PPI
H2RA
Placebo


7635 patients
Grade II-IV

85%
52%
28%
Effects of Treatment with Omeprazole 20mg BID

Acid Reflux

Billirubin Absorbance

p < .001

p < .003
Endoscopic Regression with PPIs

Aggressive Acid Control
% time pH < 1.6%

% Patients

![Graph showing % Patients with different pH levels and n values.

- n = 14: 60, 40, 40, 20
- n = 12: 60, 40, 40, 20
- n = 23: 60, 40, 40, 20
- n = 9: 60, 40, 20
- n = 24: 60, 40, 20
- n = 47: 60
- n = 27: 60

- 156 patients total
- 14% with pH < 1.6%
Rate of Change in Barrett’s Length

N = 67

Interobserver variation 0.94

cimetidine 400 mg bid
ranitidine 150 mg bid
3 yr Follow-up

Continued Acid Reflux
Asymptomatic Patients

% Patients

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<tr>
<th>n</th>
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33% of patients

125
Reduced Incidence of Dysplasia PPIs

Reduced Incidence of Dysplasia

PPIs - Australian Study

Chemoprevention Celecoxib (200mg bid) Randomized Trial

Changes in grade / extent of dysplasia after 48 wks

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<td>Median (IQR) Change Dysplasia</td>
<td>-0.09 (-0.32-0.14)</td>
<td>-0.07 (-0.27-0.13)</td>
<td>.64</td>
<td>0.12 (-0.31-0.55)</td>
<td>0.02 (-0.24-0.28)</td>
<td>.88</td>
<td>-0.08 (-0.39-0.23)</td>
<td>-0.06 (-0.35-0.23)</td>
<td>.84</td>
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2008 ACG Barrett’s Esophagus Guidelines: Chemoprevention

- Sufficient evidence that any treatment prevents cancer or cancer-related deaths is lacking
- Chemoprevention represents a promising future strategy
2011 AGA Barrett’s Esophagus Guidelines: Chemoprevention

- Suggest against the use of ASA solely to prevent esophageal cancer in the absence of other indications
- Definitive studies are lacking
HALO\textsuperscript{360} Ablation Catheter
HALO$^{90}$ Device
PDT Before/After
Radiofrequency Ablation

AIM-Dysplasia Trial: Complete response dysplasia, HGD cohort

Radiofrequency Ablation

AIM-Dysplasia Trial: Complete response IM (N=101)

Barrett’s Esophagus

• Education about cancer risk
  – 0.2%/year
  – Most patients die of other causes
  – Survival no different than general population

• Control reflux symptoms
## Current Guidelines

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<th>Year</th>
<th>Screening</th>
<th>Surveillance</th>
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| **American College of Gastroenterology** | 2008 • No recommendation for or against                                    | • No dysplasia: 3 years  
• LGD: 1 year  
• HGD without endoscopic therapy: 3 months |
| **American Gastroenterological Association** | 2011 • Recommended for patients with multiple risk factors for EAC  
• Recommended against for general population with GERD | • No dysplasia: 3-5 years  
• LGD: 6-12 months  
• HGD without endoscopic therapy: 3 months |
| **British Society of Gastroenterology**   | 2013 • Consider in patients with chronic GERD symptoms and multiple risk factors for EAC  
• Not justified for general population with GERD | • No dysplasia and BE length <3 cm: 3-5 years  
• No dysplasia and BE length ≥3 cm: 2-3 years  
• LGD: 6 months |