Controversies in Barrett’s Esophagus

Barrett’s Associated Adenocarcinoma
Rising Incidence of Esophageal Adenocarcinoma

Controversies: Barrett’s Esophagus

- Accurate Diagnosis of BE
- Risk Factors and Progression
- Medical Therapy
- Endoscopic Therapy

Pohl H et al, J Natl Cancer Inst 2005
Accurate Diagnosis: Is It Really Barrett’s Esophagus!

Barrett’s Esophagus

Columnar lined esophagus  Intestinal Metaplasia
Endoscopic BE: Prague C&M Criteria

- Based on – Circumference and Maximum extent
- Patient with 5 cm long Barrett’s, distal 2 cm circumferential and proximal 3 cm in form of a tongue
  Barrett’s: C2M5

Sharma P et al, Gastroenterology 2006

What is Not Barrett’s Esophagus:
The slightly irregular z line
Follow up of GEJ metaplasia

- 162 patients
- Follow up: 2-8 years
- No HGD or cancers developed

Jung KW et al, Am J Gastro 2011
Sharma P et al, Gut 2000
Controversies: Barrett’s Esophagus

Accurate Diagnosis of BE

Risk Factors and Progression

Medical Therapy

Endoscopic Therapy

Prevalence of BE in GERD

- 1058 GERD patients
- Mean age 57 years
- Men 91%, Caucasian 82%

Risk Factors
- Caucasian
- Heartburn >5 years
- Hiatus Hernia

Patients (%)

Mean length 2.2 cm

Columnar lined Esophagus

BE (intestinal metaplasia)

Balasubramanian G et al. Am J Gastro 2012
Progression of Barrett’s Esophagus

squamous – metaplasia – dysplasia – carcinoma
(Barrett’s)

Non-dysplastic Barrett’s: Cancer Risk

Low Risk of Neoplasia in Barrett’s Esophagus
What Is The Real Risk?

Nationwide, population-based, cohort study of all Barrett’s patients in Denmark

11,028 BE patients; median follow up: 5.2 years

Overall cancer risk: 0.12% per year

- Non dysplastic BE: 0.1%
- Low grade dysplasia: 0.5%
- High grade dysplasia: 5-6%

Hvid-Jensen F et al, NEJM 2011

Decreasing cancer risk with increasing number of consecutive EGDs showing no dysplasia

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

P value for trend = 0.005

Gaddam S et al, Gastroenterology 2013
Barrett’s Inspection Time (BIT)

% Patients with HGD/EAC

- BIT < 2 minutes: 15%
- BIT 3-4 minutes: 32%
- BIT 5-6 minutes: 48%
- BIT > 7 minutes: 69%

Longer BIT led to more HGD/EAC detection (p=0.001) despite no difference in BE length (p=0.10)

Gupta N et al. GIE 2012

Controversies: Barrett’s Esophagus

Accurate Diagnosis of BE
Risk Factors and Progression

Medical Therapy

Endoscopic Therapy
Does medical therapy impact the development of dysplasia or cancer in BE patients?

Effect of PPI therapy on dysplasia
**PPIs & Progression**

- 540 BE patients
- Median f/u 5.2 yrs
- 28 developed HGD; 12 developed EAC
- 85% used PPIs at baseline

**PPI use associated with decreased risk of progression**

HR 0.43 (95% CI, 0.21-0.88)

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**Controversies: Barrett’s Esophagus**

- Accurate Diagnosis of BE
- Risk Factors and Progression
- Medical Therapy
- Endoscopic Therapy
Improving Endoscopic Outcomes

Resect the Highest Grade Lesion
Prateek Sharma, MD, FACG

Endoscopic Resection Specimen: Mucosal Cancer

EMR Changes Diagnosis in Visible and Flat Dysplasia

- Multicenter US study
- 148 patients with HGD/Cancer
- 24% without visible lesions

Wani S et al. DDS 2013
Improving Endoscopic Outcomes

Eradication of the Remaining BE segment after EMR

Circumferential Focal

Radiofrequency Eradication
A Randomized, Multicenter, Sham Controlled Trial of RF Ablation

- 128 patients with BE and dysplasia (LGD/HGD)
- Mean BE length 5 cm; 12 month follow up

Patients %

<table>
<thead>
<tr>
<th></th>
<th>SHAM</th>
<th>RFA</th>
<th>p&lt;0.001</th>
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<tbody>
<tr>
<td>LGD Eradication (n=64)</td>
<td>23%</td>
<td>90%*</td>
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<tr>
<td>HGD Eradication (n=63)</td>
<td>19%</td>
<td>81%*</td>
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<tr>
<td>IM Eradication (n=127)</td>
<td>2%</td>
<td>77%*</td>
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Shaheen N et al. NEJM 2009

Recurrences After Ablation

- 72 BE patients
- Mean length: 7.8 cms
- Mean follow up 3 years

Dulai et al. Gastrointest Endosc 2013
BE Recurrence: RFA Registry

- 1128 patients in RFA registry
- Follow up: 2 years after complete eradication
- Mean age 61 years
- Mean BE length 4 cm

Recurrence predictors:
- Non Caucasian
- Number of RFA sessions

Conclusions

- Clear identification of endoscopic landmarks is the basis for an endoscopic diagnosis
- A detailed inspection of the Barrett’s mucosa using high definition endoscopes reveals neoplastic lesions
- Medical therapy may have an impact on neoplastic progression in BE patients
- Endoscopic therapy has excellent results; recurrences can happen