Barrett's Esophagus: Quality Indicators
Prateek Sharma, MD, FACG
Kansas City

Barrett's Esophagus
Prior to Endoscopy
Accurate Diagnosis of BE
Surveillance
Endoscopic Therapy
Barrett’s Esophagus

Prior to Endoscopy

Accurate Diagnosis of BE

Surveillance

Endoscopic Therapy

Quality indicators for EGD: Pre-procedural

Frequency with which informed consent is obtained including specific discussions of risks associated with EGD, and fully documented

Level of evidence: 3
Performance target: >98%

Park WG et al. GIE and Am J Gastro 2015
Barrett's Esophagus

Prior to Endoscopy

Accurate Diagnosis of BE

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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
**BE<1cm: Irregular z-line - Results from a large, multicenter, cohort study**

- **2188 excluded:**
  - Visible lesions
  - Dysplasia
  - EAC within 1 yr of BE diagnosis

- **3635 BE patients**

- **1447 NDBE included**
  - Caucasians 94%
  - Males: 87%
  - Median follow-up: 6.1 years

- **69 BE<1 cm**
  - None progressed to HGD/Cancer

- **60 incident cancers from BE>1 cm**

*Gaddam S et al. DDW 2014*

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**Quality indicators for EGD: Intra-procedural**

Frequency with which BE is appropriately measured when present

- **Level of evidence: 2**
- **Performance target: >98%**

*Park WG et al. GiE and Am J Gastro 2015*
Quality indicators for EGD: Intra-procedural

Frequency with which a complete examination of the esophagus, stomach, and duodenum, including retroflexion in the stomach, is conducted and documented

Level of evidence: 3
Performance target: >98%

Park WG et al. GIE and Am J Gastro 2015

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Non-dysplastic Barrett’s: Cancer Risk

Low Risk of Neoplasia in Barrett’s Esophagus

Cancer in Barrett’s esophagus: What is the updated incidence?

<table>
<thead>
<tr>
<th>BE patients, N</th>
<th>29,536</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age</td>
<td>61 years</td>
</tr>
<tr>
<td>Caucasians</td>
<td>83 %</td>
</tr>
<tr>
<td>Average follow-up</td>
<td>5 years</td>
</tr>
<tr>
<td>Cancer development, per year</td>
<td>0.18 %</td>
</tr>
</tbody>
</table>

Shakhatreh MH et al. AJG 2014
Can We Improve LGD Criteria?

Consensus Meeting
3 expert GI pathologists (Cleveland Clinic; Kansas City)

Agreement on LGD criteria
LGD - Inflammatory
LGD – Dysplastic

Confidence in making diagnosis
High vs. Low

Kanakadandi et al. DDW 2014

Can We Improve LGD Criteria?

79 slides reviewed

<table>
<thead>
<tr>
<th></th>
<th>Kappa</th>
</tr>
</thead>
<tbody>
<tr>
<td>LGD – overall</td>
<td>0.2</td>
</tr>
<tr>
<td>LGD – Inflammatory</td>
<td>0.03</td>
</tr>
<tr>
<td>LGD – Dysplastic</td>
<td>0.04</td>
</tr>
<tr>
<td>High confidence</td>
<td>0.3</td>
</tr>
</tbody>
</table>

Kanakadandi et al. DDW 2014
Does Surveillance Improves Outcomes

- National VA database
- 29,504 Barrett’s patients
- 433 cancers (EAC)
- Follow-up: 4.7 years

Mean Survival:
3.6 vs. 3 years

Survival:

- Surveillance: 57.8%
- No Surveillance: 40.3%

Stage of cancer:
- Stage 0: 15.1%
- Stage 1: 8.7%

Follow-up: 4.7 years

Patients (%)

0% 15% 30% 45% 60%

DDW 2014

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

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

Annual Cancer risk(%)

P value for trend = 0.005

Gaddam S et al. Gastroenterology 2013
Quality indicators for EGD:
Pre-procedural

Frequency with which EGD is performed for an indication that is included in a published standard list of appropriate indications, and the indication is documented

Level of evidence: 1C+
Performance target: >80%

Indications: surveillance and endoscopic therapy for BE

Park WG et al. GIE and Am J Gastro 2015

Adherence to Biopsy Guidelines

- 10,958 cases of established BE cases identified in CARIS database
- Adherence: ≥ 4 biopsies per 2 cm BE length

Adherence rate = 51%

Non adherence - significantly decreased neoplasia detection OR 0.53 (95% C.I: 0.35-0.82)

Abrams JA et al, Clin Gastroenterol Hepatol 2009
Quality indicators for EGD: Intra-procedural

Frequency with which biopsy specimens are obtained in cases of suspected BE

Level of evidence: 2
Performance target: >98%

Park WG et al. GIE and Am J Gastro 2015

National Quality Strategy Domain: Clinical Process/Effectiveness

• **Measure:**
  Barrett’s Esophagus

• **Description:**
  Percentage of esophageal biopsy reports that document the presence of Barrett’s mucosa that also include a statement about dysplasia
Barrett’s Esophagus

Prior to Endoscopy

Accurate Diagnosis of BE

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Improving Endoscopic Outcomes

Resect the Highest Grade Lesion
Consensus Quality Measure

In patients with dysplastic BE or early esophageal adenocarcinoma, a diagnostic endoscopic resection should be performed on any raised or suspicious areas.

AGA Consensus Conference, 2013

Improving Endoscopic Outcomes

Eradication of the Remaining BE segment after EMR
Quality indicators for EGD: Post-procedural

Frequency that patients are contacted to document the occurrence of adverse events after EGD

Level of evidence: 3
Performance target: NA

Park WG et al. GIE and Am J Gastro 2015

Conclusions

• Clear identification of endoscopic landmarks is the basis for an endoscopic diagnosis
• Retro-flexion examination may reveal neoplastic lesions
• Risk of cancer in non dysplastic BE is low; surveillance is recommended

Quality measures in the diagnosis and management of patients with BE will be a reality