Becoming a Dysplastic Barrett’s Esophagus Expert:

Quantification of Expertise and Continuous Structural Education in the Set-Up of a National Digital Review Panel

Presented by
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Disclosures

• None
Barrett’s dysplasia reporting subject to significant inter- and intra-observer variability

- Reported progression rates Barrett’s dysplasia vary greatly between sites
- ESGE guidelines: ‘All cases of Barrett’s dysplasia should be confirmed by a second Expert gastro-intestinal pathologist’
- Progression risk increases with number of experts agreeing on the diagnosis of dysplasia
- What constitutes an expert is mostly unknown

![Graph showing incidence per patient-year of HGD/EAC with 0-3 pathologists confirming LGD]
Study Aims

1. To set up a national digital review panel for dysplastic Barrett’s esophagus biopsies

2. Within this panel, to objectively quantify expertise and homogenize assessment of a large group of gastro-intestinal pathologists
Aim 1: review panel

• 8 BE expert centers in the Netherlands
Aim 1: review panel

- Consortium of 8 BE expert centers
  - Treatment of all BE pt with dysplasia
- 15 GI pathologists
- Wish to collaborate in diagnostics

Advantages of central review panel:
- Uniform reporting
- Fast → Digital workflow
- Panel consensus diagnosis
Study Aims

1. To set up a national digital review panel for dysplastic Barrett’s esophagus biopsies

2. Within this panel, to objectively quantify expertise and homogenize assessment of a large group of gastro-intestinal pathologists
‘Core pathologist group’ to quantify expertise

At least 20 yrs experience
Teaching hospital
>10 BE cases / week
Collaboration on different advisory committees

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Benchmark quality criteria

• Quality parameters to objectively quantify expertise

• Qualify = fall within benchmark values of each criterium
Benchmark quality criteria

• Intra-observer agreement [reproducibility]

• # diagnoses indefinite for dysplasia [contribution to diagnostic process]

• Agreement with consensus diagnosis

• Misdiagnoses: # diagnoses of non-dysplastic Barrett’s while consensus diagnosis is high-grade dysplasia

van der Wel et al UEGJ 2018
5 core pathologists

Digital microscopy
- Validation
- Group discussion

Benchmark quality criteria
- Determining values
- Group discussion

Start of panel
- Continuous feedback
- Group discussions
Current workflow

- Digital microscopy
  - Validation
  - Group discussion

Start of panel
- Continuous feedback
- Group discussions

5 core pathologists
1. Online review

2. Slide sending + digitalization

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Digitalization: 

Assessment: 

Consensus meeting: 

3. Pathologists log into secure server (p53 provided)
4. Pathologists fill in secure webform

5. All diagnoses are collected by a data manager

6. Conclusion diagnosis is formulated

7. Sent to treating endoscopist
Digitalization  
Assessment  
Consensus meeting

8. If no majority diagnosis: online consensus meeting
TP53 immuno histochemistry
- Validation
- Group discussion

Benchmark quality criteria
- Adherence?
- Group discussion

First 80 panel review cases
- Adherence to BM criteria?
- Group discussion

10 GI pathologists

van der Wel et al Histopathology 2018
### Figure 1: Improvement of Pathologist Expertise on Assessment of Dysplastic BE Biopsies Related to Benchmark Values Over a Timeline of 5 Study Sets

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<th>Pathologist</th>
<th>Study Set Ia</th>
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In 5 years
15 pathologists assessed
31500 slides generating
6000 diagnoses

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Conclusions

• Benchmark quality criteria (quantification of expertise)
• Digitalized slide sets (reproducibility of expertise)
• A structured approach (training of expertise)
• Regular face-to-face meetings (feedback from expert peers)

Heterogeneous pathologist group → Homogenous expert panel
using Digital pathology

gaining Nationwide coverage