Endoscopic management of early esophageal neoplasia

Jacques Bergman, Academic Medical Centre Amsterdam
Endoscopic Resection (ER)

- ER allows for histological correlation, enabling optimal selection of patients for endoscopic treatment.
- The *ONLY* reliable way to distinguish mucosal from submucosal cancers.
Endoscopic Resection (ER)

- ER allows for histological correlation, enabling optimal selection of patients for endoscopic treatment.
- The ONLY reliable way to distinguish mucosal from submucosal cancers.
Why mucosal?

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## Why mucosal?

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EMR-cap technique
Multiband Mucosectomy
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Multiband Mucosectomy

- RCT of ER-cap vs. MBM \((\text{Pouw et al. Gastrointest Endosc 2011})\): MBM is easier, quicker, cheaper, maybe safer.

- Alvarez-Herrero et al. Endoscopy 2011:
  1060 MBM resections, no perforations, 91% complete resection rate.

- MBM is probably the preferred technique for \textit{focal ER} of lesions in BE.
Focal EMR leads to disease recurrence

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- Effective endoscopic therapy in all recurrences.
- Nevertheless, strict endoscopic follow-up is imperative.
### Focal EMR leads to disease recurrence

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- Effective endoscopic therapy in all recurrences.
- Nevertheless, strict endoscopic follow-up is imperative.
- Recurrence rate < in patients in whom all BE is removed.

*Manner et al. Endoscopy 2013*
Focal EMR leads to disease recurrence

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Ultimate solution: Removal of the whole BE
Stepwise radical endoscopic resection
Stepwise radical endoscopic resection

161 patients with HGD or EC

Stepwise Radical Endoscopic Resection

Pouw et al. Gut 2010
Stepwise radical endoscopic resection

161 patients with HGD or EC

158 complete removal of all HGD/EC
Success rate: 98.1%

Median FU 32 mo:
Recurrence: 1.9%
(all effectively treated)
Stepwise radical endoscopic resection

161 patients with HGD or EC

158 complete removal of all HGD/EC
Success rate: 98.1%

Median FU 32 mo:
Recurrence: 1.9%
(all effectively treated)
Symptomatic stenosis in 49.7% of patients.

Only for patients with BE < 5 cm in length.

Technically demanding.

Do we really have to resect the whole BE?
Radiofrequency ablation (RFA)
Radiofrequency ablation (RFA)
EURO-II Study
EURO-II Study

- 13 leading centres in Europe;
- ER+RFA for HGD/EC in Barrett’s
- 132 patients enrolled.
- Eradication of dysplasia and IM >95%.
- 46 months FU
- Persistent remission in 96%
Complete ER or ER+RFA combi?

Van Vilsteren et al. Gut 2011

BE < 5 cm
HGD/EC

Randomization

Complete ER

RFA
## Complete ER or ER+RFA combi?

*Van Vilsteren et al. Gut 2011*

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<th>Complete ER (n=25)</th>
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<td>Eradication of neoplasia</td>
<td>100%</td>
<td>96%</td>
</tr>
<tr>
<td>Recurrence of neoplasia</td>
<td>4%</td>
<td>0%</td>
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<td>Stenosis</td>
<td>88%*</td>
<td>15%*</td>
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<tr>
<td>Total no treatment sessions</td>
<td>6*</td>
<td>3*</td>
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*P<0.001

Van Vilsteren et al. Gut 2011
NO

Residual BE epithelium?

YES

Escape ER

EGD with NBI and 4Q/1-2cm biopsies

HGD/EC in BE

ER of any visible lesion

Primary HALO$^{360}$ ablation

HALO$^{360/90}$ ablation every 2-3 months
After EMR and RFA: 85% surface area reduction

After escape EMR: Complete removal of dysplasia and IM

Barrett C7M8 IMC and HGD
Barrett’s esophagus: who to treat?

- **HGD**: if the patient is properly selected.
- **Early cancer**: only after endoscopic resection of the lesion.
Treatment of LGD?

- HGD: if the patient is properly selected.
- Early cancer: only after endoscopic resection of the lesion.
- LGD: not outside clinical trials?
Is LGD an innocent disease?

Depends on which pathologist makes the diagnosis.

If LGD is frequently diagnosed: the risk is low and vice versa.

### Frequencies

<table>
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<tr>
<th>Study author(s)</th>
<th>Year</th>
<th>Frequency of LGD</th>
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<tbody>
<tr>
<td>Schnell et al. [4]</td>
<td>2001</td>
<td>67.2%</td>
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<tr>
<td>Sharma et al. [5]</td>
<td>2003</td>
<td>25.0%</td>
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<td>Sharma et al. [6]</td>
<td>2006</td>
<td>21.4%</td>
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<tr>
<td>Egger et al. [7]</td>
<td>2003</td>
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<tr>
<td>O’Connor et al. [8]</td>
<td>1999</td>
<td>17.6%</td>
</tr>
<tr>
<td>Csendes et al. [9]</td>
<td>2003</td>
<td>11.9%</td>
</tr>
<tr>
<td>Gopal et al. [10]</td>
<td>2003</td>
<td>9.7%</td>
</tr>
<tr>
<td>Conio et al. [11]</td>
<td>2003</td>
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<tr>
<td>Vieth &amp; Stolte [12]</td>
<td>2002</td>
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- 1.4% in 7 yrs
- 40% in 28 mo
Correctly diagnosing LGD is tough

Consensus diagnosis: high risk of progression

Skacel et al. Am J Gastro 2000
146 LGD pts reviewed by 2 expert pathologists

110 pts NDBE (75%)
14 pts Indef (10%)
22 pts LGD (15%)

Median FU of 51 months

0.49% per patient year
No HGD/Ca
42% HGD/Ca 13.4% per pnt yr

Curvers et al. Am. J. Gastro. 2010
146 LGD pts reviewed by 2 expert pathologists

110 pts NDBE (75%)
14 pts Indef (10%)
22 pts LGD (15%)

Over-diagnosed but Under-estimated

0.49% per patient year
No HGD/Ca
42% HGD/Ca 13.4% per pnt yr

Curvers et al. Am. J. Gastro. 2010
SURF-Trial
European multicenter RCT

Confirmed LGD in BE

- Surveillance
  - HR endoscopy + biopsies \( t = 6 \) mo
  - HR endoscopy + biopsies \( t = 12 \) mo
  - HR endoscopy + biopsies \( t = 24 \) mo
  - HR endoscopy + biopsies \( t = 36 \) mo

- Radiofrequency Ablation
  - Halo360 (max 2)
  - Halo90 (max 3)
  - Removal of all BE?
    - HR endoscopy + biopsies \( t = 12 \) mo
    - HR endoscopy + biopsies \( t = 24 \) mo
    - HR endoscopy + biopsies \( t = 36 \) mo
SURF-Trial

<table>
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<tr>
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<th>RFA (n=68)</th>
<th>Surveillance (n=68)</th>
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<td>Progression to HGD/EAC</td>
<td>1 (1%)</td>
<td>18 (26.5%)</td>
<td>&lt;0.001</td>
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![Graph showing progression over time with Surveillance and RFA groups compared.](image-url)
SURF-Trial

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<td>Progression to EAC</td>
<td>1 (1%)</td>
<td>6 (9%)</td>
<td>0.026</td>
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Graphs showing the rate of progression over follow-up in months for Surveillance and RFA groups.
Treatment of LGD?

- HGD: if the patient is properly selected.
- Early cancer: only after endoscopic resection of the lesion.
- LGD: if the histological diagnosis is confirmed
What about non-dysplastic Barrett’s?

- Non-dysplastic BE
- Low grade dysplasia
- High grade dysplasia
- Early cancer
Ablating non-dysplastic Barrett’s?

- HGD: if the patient is properly selected.
- Early cancer: only after endoscopic resection of the lesion.
- LGD: if the patient is properly selected (path review!).
- NDBE: selected cases (e.g. <50 years, family history BE-cancer).
Proper training and centralization

- Few endoscopists are proficient in ER.
- ER and RFA are just part of the game.
Proper training and centralization

- Few endoscopists are proficient in ER.
- ER and RFA are just part of the game.

- Endoscopic imaging and follow-up are crucial.
- Histopathology of ER-specimens is not easy.
This website provides information on the endoscopic management of Barrett's oesophagus, including video material and powerpoint presentations to download on imaging, treatment and pathology, as well as information regarding training courses.
Amsterdam Live Endoscopy '14
15 & 16 December 2014, Eighth Annual Course
Hotel Okura Amsterdam, The Netherlands

www.amsterdameleonoscopy.com for more info and registration

International symposium with 35 live demonstrations and 8 break-out sessions

Faculty
Jacques Devière
Horst Neuhaus
Oliver Pech
Alessandro Repici
Siwan Thomas-Gibson
Takashi Toyonaga
Frank Vleggaar
Mike Wallace
Paul Fockens
Jacques Bergman
Evelien Dekker
Jeanin van Hooft
Guido Tytgat