Pro: Transanal resection

Martin Hübner
Service de Chirurgie Viscérale
Centre Hospitalier Universitaire Vaudois
Key questions

Accuracy of staging

Completeness of resection

Recurrence

Morbidity

Function
Roadmap

Transanal resection
Types of surgery
Video
Outcomes

Transanal vs. Endoscopic
Quality of resection
Morbidity
Recurrence
♀, 37y, 3cm
Here is the problem

Adenoma or cancer?

In toto resection feasible?

Risk for N+?
Final diagnosis

Does this young lady need:
- Nothing (cured)?
- Follow-up?
- Local re-resection?
- Radiation?
- Radical surgery?

Adenoma
Low-grade Dysplasia

Adenom
High-grade dysplasia

invasiv adenocarcinoma
Risk for N+

Haggitt RC. Gastroenterology 1985
Nivatvongs S. DCR 1991
Coverlizza S. Cancer 1989

12-25%

<1%

Kyzer Cancer 1992
Cooper HS. Gastroenterology 1995

Courtesy Prof. D. Hahnloser
Submucosal invasion depth

Sm1 8%
Sm2 11%
Sm3 34%
Aims

Complete resection

En-bloc, orientated

Minimal morbidity

Good function
Transanal resection

Limited range

6 cm

Courtesy Prof. D. Hahnloser
Transanal endoscopic resection

20 cm

4 cm
Transanal Endoscopic Microsurgery

Difficult
Expensive
Limited availability

Buess 1983
Transanal Minimal-Invasive Surgery

Courtesy Prof. D. Hahnloser
TAMIS: results

n=75 consecutive patients, 4 centers
7% previous anal surgery

All attempts successfull
93% in lithothomy
77 minutes (25-245)
7 intra-OP complications (9%)
Bleeding 3x, Peritoneal opening 3x, Pneumoscrotum
## TAMIS: post-OP morbidity

<table>
<thead>
<tr>
<th>Condition</th>
<th>N (%)</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bleeding</td>
<td>5 (7%)</td>
<td>2 grade I, 3 grade II</td>
</tr>
<tr>
<td>Local Infection</td>
<td>6 (8%)</td>
<td>5 grade II, 1 grade IIIb</td>
</tr>
<tr>
<td>Urinary tract infection</td>
<td>2 (3%)</td>
<td>2 grade II</td>
</tr>
<tr>
<td>Urinary retention</td>
<td>2 (3%)</td>
<td>2 Grade II</td>
</tr>
</tbody>
</table>

15 (20%)  
LOS 3.4 days (range 1-21)
TAMIS: specimen quality

- Size: 39x29x13mm
- Fragmentation 8% (all benign)
- Mean resection margin 7.9mm
- Lymph nodes 17% (1.6 mean)

N=35 Adenoma
N=1 Carcinoid
N=1 Hamartoma
N=38 Adenocarcinoma

4 T0
11 Tis
13 T1
9 T2
1 T3

4 radical surgery
1 EPMR
2 Postop X ray
Postoperative function

Overall: 3.6 vs. 3.9 ($p=0.020$)
EORTC QLQ-C30+38 = FISI
27/30 (90%) would do it again
Repeated TEM?

<table>
<thead>
<tr>
<th></th>
<th>First TEM (n=14)</th>
<th>Repeated TEM (n=14)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of stay (days) [mean (SD)]</td>
<td>1.7±1.3</td>
<td>1.7±1.1</td>
</tr>
<tr>
<td>Overall morbidity [n (%)]</td>
<td>5 (35.7)</td>
<td>3 (21.4)</td>
</tr>
<tr>
<td>Respiratory complication [n (%)]</td>
<td>2 (14.3)</td>
<td>1 (7.1)</td>
</tr>
<tr>
<td>Urinary tract infection</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Urinary retention [n (%)]</td>
<td>2 (14.3)</td>
<td>1 (7.1)</td>
</tr>
<tr>
<td>Bleeding [n (%)]</td>
<td>0</td>
<td>1 (7.1)</td>
</tr>
<tr>
<td>Pelvic sepsis (abscess, infected hematoma)</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Systematic review and meta-analysis of endoscopic submucosal dissection versus transanal endoscopic microsurgery for large noninvasive rectal lesions

<table>
<thead>
<tr>
<th></th>
<th>ESD 11 studies N=536</th>
<th>TEM 10 studies N=1’541</th>
<th>( P )</th>
</tr>
</thead>
<tbody>
<tr>
<td>En bloc</td>
<td>88% (95%CI: 84-91)</td>
<td>99% (95%CI: 97-99)</td>
<td>.001</td>
</tr>
<tr>
<td>R0</td>
<td>75 (70-78)</td>
<td>89 (86-91)</td>
<td>.001</td>
</tr>
<tr>
<td>Complications</td>
<td>8 (5-12)</td>
<td>8 (5-13)</td>
<td>.874</td>
</tr>
<tr>
<td>Recurrence</td>
<td>2.6 (1.3-5.2)</td>
<td>5.2 (4-6.9)</td>
<td>.001</td>
</tr>
</tbody>
</table>

Arezzo Surg Endoscopy 2014
Systematic review of endoscopic mucosal resection versus transanal endoscopic microsurgery for large rectal adenomas

<table>
<thead>
<tr>
<th></th>
<th>ESD 20 studies N=1’030</th>
<th>TEM 48 studies N=2’860</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyp size</td>
<td>31mm (range: 2-86)</td>
<td>37mm (range: 3-182)</td>
<td>.02</td>
</tr>
<tr>
<td>Recurrence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>early</td>
<td>11% (6-20)</td>
<td>5% (4-7)</td>
<td>.04</td>
</tr>
<tr>
<td>late</td>
<td>1.5 (0.6-3.9)</td>
<td>3 (1.3-6.9)</td>
<td>.29</td>
</tr>
<tr>
<td>Complications</td>
<td>3.8 (2.8-5.3)</td>
<td>13 (9.8-17)</td>
<td>.001</td>
</tr>
</tbody>
</table>

Barendse Endoscopy 2011
TREND study

Status: Recruitment terminated
Data analysis

Patients with large rectal adenomas

Fulfilling inclusion criteria + informed consent (n=184)
www.trend-studie.nl

TEB (n=92)

Follow up (n=89):
Endoscopies at 6, 12, 24 months

Follow up (n=89):
Endoscopies at 6, 12, 24 months

Invasive cancer ~3%

Patients evaluable for outcome (n=178):
Recurrence rates, complications, quality of life and health care related costs
... and our patient?

... is cured!

- Adenoma
  - Low-grade Dysplasia

- normal

- Adenom
  - High-grade dysplasia

- invasiv adenocarcinoma

Adenoma

Low-grade Dysplasia

High-grade dysplasia

invasiv adenocarcinoma

www.chirurgieviscerale.ch
Centre Hospitalier Universitaire Vaudois
Conclusion

Complete resection: Transanal > Endoscopic

En-bloc, orientated: Transanal > Endoscopic

Minimal morbidity: Transanal = Endoscopic

Good function: Transanal = Endoscopic