Backgrounds

• APR is a standard treatment for very low rectal cancer (VLRC) below 5 cm from the anal verge.
• ISR has expanded an indication of sphincter preservation for VLRC
Intersphincteric Resection (ISR)

Basso 1987 DCR
Kusunoki & Utsunomiya 1992 Surgery
Schiessel 1994 BJS
Indication

- Sufficient medical fitness
- Normal sphincter function
- Distance between tumor and anorectal junction < 1-2 cm
- No involvement of external sphincter
- No signs of disseminated disease
Methods of ISR
Technical Tips

- Meticulous dissection under direct vision by electrocautery
- Distal resection margin of at least 1 cm
- Sufficient irrigation after closure of rectal stump
Purpose

• To review short-term and long-term results after ISR for VLRC
Patients

• 122 pts undergoing ISR (1993–2007)
• 2 pts with radiotherapy
• 120 pts without radiotherapy
  – Men 92
  – Women 28

• Age
  – Median 57 (26–75) years

• Distance from anal verge
  – Median 3 (1–5) cm
Treatment

- Internal sphincter resection
  - Partial 103
  - Complete 17
- External sphincter resection
  - No 108
  - Partial 12
- Lymphadenectomy
  - TME 74
  - TME + ELD 46
- Pouch
  - No 58
  - J-pouch 24
  - TCP 38
- Covering stoma
  - Yes 108
  - No 12
- Adjuvant Chemo
  - No 93
  - Yes 27
Short-Term Results

- Median operating time: 339 min
- Median blood loss: 462 ml
- Mortality: 1 (0.8%)
- Morbidity: 39 (33%)
  - Conservative tx: 30 (25%)
  - Operated: 9 (8%)
- Permanent stoma
  - No: 113 (93%)
  - Yes: 7 (7%)
- Median hospital stay: 15 days
Pathologic findings

- **Tumor size**
  - Median 3.7 (1–12) cm
- **Histologic grade**
  - Well 59
  - Moderate 53
  - Poorly 8
- **Resection margins**
  - R0 116
  - R1 4
- **pT**
  - pT1 25
  - pT2 46
  - pT3 49
- **TNM-Stage**
  - I 50
  - II 21
  - III 46
  - IV 3

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Complications

• Anastomotic leakage 15 (13%)
  – conservative treatment 9 (9%)
  – operated 6 (6%)
    • permanent stoma 5
• Bowel obstruction 6 (7%)
  – conservative treatment 5 (5%)
  – operated 1 (2%)
• Wound infection 9 (8%)
  – conservative treatment 9 (8%)

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Overall Survival

<table>
<thead>
<tr>
<th>Time after ISR (years)</th>
<th>3-yr</th>
<th>5-yr</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>95%</td>
<td>91%</td>
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</table>

Recurrence

<table>
<thead>
<tr>
<th></th>
<th>3-yr</th>
<th>5-yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>overall recurrence (n=120)</td>
<td>17%</td>
<td>23%</td>
</tr>
<tr>
<td>distant recurrence (n=120)</td>
<td>13%</td>
<td>18%</td>
</tr>
<tr>
<td>local recurrence (n=120)</td>
<td>6%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Median follow-up 3.5 years

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Risk Factors for Local Recurrence

**T-stage**

- pT1 (n=23)
- pT2 (n=40)
- pT3 (n=43)

3-yr 0% vs. 15%

\( p = 0.0012 \)

**Surgical margins**

- T3, SM- (n = 40)
- T3, SM+ (n = 3)

\( p = 0.0001 \)

Time after ISR (years)
Conclusion

- If we stick to the meticulous procedures shown in video, ISR is safe in the short term and long term.
- With T1 and T2 tumors, if meticulous dissection and irrigation are performed, local control is assured and radiotherapy is not necessary.
- For T3 tumors, if resection margins are estimated to be insufficient, preoperative therapy should be considered to reduce the risk of local failure.