Surgical Approach to Internal Rectal Prolapse and ODS.

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San Pio X Hospital - Milan
Evolving concepts in transanal stapling surgery for ano-rectal prolapse

- **STAPLED ANOPEXY** 1994(1999)
  - Haemorrhoidal Prolapse
  - Bulky Haemorrhoids 2003

- **STARR w/ DPPH** 1998
  - Internal Rectal Prolapse
  - PSP for External Prolapse 2007

- **STARR w/ Transtar** 2007
  - Complex Pelvic Prolapse 2010

- **Complex PSP for External Prolapse**
Constipation

- Slow transit
  - Functional pathologies
    - Organic pathologies
      - Pelvic dissinergy
        - Neurogenic, endocrine, metabolic
    - Pharmacologic
    - Psycopathies
  - Functional cause
    - Associated
      - Mechanical cause
    - Pelvic and rectal tumor
  - Pelvic Outlet Obstruction
    - Descending Perineum
    - Entero-Sigmoidocele
    - Uterus and/or vaginal prolapse
- Rectal pathologies
  - Intussusception
  - Procidentia
  - Rectocele
Clinical features

- Rectocele
Clinical features

- **Internal Rectal Prolapse**
Clinical features

• Intussusception
Clinical features

• Intussusception and Rectocele
Clinical features

- Intussusception and Rectocele

Courtesy of A. Longo
Evolving concepts in transanal stapling surgery for ano-rectal prolapse

STAPLED ANOPEXY 1994(1999)

Bulky Haemorrhoids 2003
STARR c/ DPPH 1998
Complex Pelvic Prolapse

STARR c/ Transtar 2007

PSP for External Prolapse

Haemorrhoidal Prolapse
Internal Rectal Prolapse/Rectocele

«Tailored Treatment
1060 STAPLED PROCEDURES FOR ANO-RECTAL PROLAPSE
April 2000 – April 2012

P.P.H.
833 Patients
Apr.00-Apr.12

S.T.A.R.R.
227 Patients
Apr.02-Apr.12
<table>
<thead>
<tr>
<th>Study</th>
<th>Year</th>
<th>Patients</th>
<th>Follow-up (months)</th>
<th>Cleveland-Clinic Constipation Pre-STARR</th>
<th>Post-STARR</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>G. Dodi</td>
<td>2003</td>
<td>14</td>
<td>12</td>
<td>-</td>
<td>-</td>
<td>Success rate 50%, high morbidity</td>
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<tr>
<td>P. Boccasanta</td>
<td>2004</td>
<td>90</td>
<td>16</td>
<td>13.0</td>
<td>4.5</td>
<td>Good results 90%</td>
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<tr>
<td>P. Boccasanta</td>
<td>2004</td>
<td>25*</td>
<td>23</td>
<td>18.0</td>
<td>5.7</td>
<td>Good results 88%, *RCT (STARR vs STAPL)</td>
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<tr>
<td>O. Schwandner</td>
<td>2005</td>
<td>16</td>
<td>6</td>
<td>18.6</td>
<td>3.8</td>
<td>Success rate 93%</td>
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<tr>
<td>A. Ommer</td>
<td>2006</td>
<td>14</td>
<td>19</td>
<td>13.0*</td>
<td>4.0*</td>
<td>Success rate 93%, *ODS Score</td>
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<tr>
<td>A. Renzi</td>
<td>2006</td>
<td>71</td>
<td>6</td>
<td>17.0</td>
<td>7.9</td>
<td>Success rate 90%</td>
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<tr>
<td>M. Sielaff</td>
<td>2006</td>
<td>60</td>
<td>16</td>
<td>12.7</td>
<td>6.6</td>
<td>Success rate 67%</td>
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<tr>
<td>A. Arroyo</td>
<td>2007</td>
<td>37</td>
<td>24</td>
<td>12.7</td>
<td>4.1</td>
<td>Success rate 95%</td>
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<tr>
<td>P. Boccasanta</td>
<td>2007</td>
<td>34*</td>
<td>8</td>
<td>5.1</td>
<td>2.9</td>
<td>RCT, (STARR vs stapled anopexy)</td>
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<tr>
<td>G. Pechlivanides</td>
<td>2007</td>
<td>37</td>
<td>9</td>
<td>9.5</td>
<td>3.0</td>
<td>Success rate 88%</td>
</tr>
<tr>
<td>G. Gagliardi</td>
<td>2008</td>
<td>85</td>
<td>17</td>
<td>-</td>
<td>-</td>
<td>Good results 65%, high morbidity and recurrence rate</td>
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<tr>
<td>P. Boccasanta</td>
<td>2008</td>
<td>14</td>
<td>27</td>
<td></td>
<td></td>
<td>Success rate 88%, solitary rectal ulcer</td>
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<tr>
<td>A. Arroyo</td>
<td>2008</td>
<td>104</td>
<td>26</td>
<td>13.5*</td>
<td>5.1*</td>
<td>Success rate 89%, low morbidity, *ODS Score</td>
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<tr>
<td>M. Frascio</td>
<td>2008</td>
<td>25</td>
<td>25</td>
<td>14</td>
<td>9</td>
<td>Success rate 88%, safe and effective</td>
</tr>
<tr>
<td>PA. Lehur</td>
<td>2008</td>
<td>59</td>
<td>12</td>
<td>16*</td>
<td>5*</td>
<td>RCT (STARR vs Biofeedback) *ODS Score Success rate 82% vs 33%</td>
</tr>
</tbody>
</table>
European STARR Registry

- 2852 enrolled (76.5% females)
- No mortality, morbidity (serious complications with sepsis: 0.3%_9/2852), adverse events
- symptom severity & ODS scores
- incontinence score
- QoL (PAC-QoL, EQ-5D)

Dis Colon Rectum. 2009 Jul;52(7):1205-12
European STARR Registry: Effectiveness (ODS score)

Preop 6M & 12M visit Scores: all available data
variations between visits: within patient data only

- Pre
- 6M
- 12M
- Pre to 6M
- 6M to 12M
- Pre to 12M
European STARR Registry: Continence (CCF score)

Preop 6M & 12M visit Scores: all available data
variations between visits: within patient data only
European STARR Registry: Quality of Life (PAC-QoL)

- Variations between visits: within patient data only
- Preop 6M & 12M visit Scores: all available data

Box plots showing score variations for different time intervals.
1 Guidance

1.1 Current evidence on the safety and efficacy of stapled transanal rectal resection (STARR) for obstructed defaecation syndrome (ODS) is adequate in the context of this condition, which can significantly affect quality of life. The procedure may therefore be used with normal arrangements for clinical governance, consent and audit.

1.2 Stapled transanal rectal resection for ODS should be carried out only in units specialising in the investigation and management of pelvic floor disorders. Patient selection and management should involve a multidisciplinary team including a urogynaecologist or urologist and a colorectal surgeon experienced in this procedure.
Evolving concepts in transanal stapling surgery for ano-rectal prolapse

STAPLED ANOPEXY 1994(1999)

Bulky Haemorrhoids 2003 →

STARR c/ DPPH 1998 →

Haemorrhoidal Prolapse

Internal Rectal Prolapse/Rectocele

PSP for External Prolapse

Complex Pelvic Prolapse

«Tailored Treatment

STARR c/ Transtar 2007 →

Complex Pelvic Prolapse
Double-stapled anopexy

Study


Double-stapled anopexy
Evolving concepts in transanal stapling surgery for ano-rectal prolapse

- STARR c/ DPPH 1998
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- Complex Pelvic Prolapse
- Haemorrhoidal Prolapse
- Internal Rectal Prolapse
- Rectocele
- «Tailored Treatment»
STARR with Contour Transtar
## Transtar: Evidence IV/B

<table>
<thead>
<tr>
<th>Study</th>
<th>N</th>
<th>Follow-up (months)</th>
<th>Study type</th>
<th>Conclusion</th>
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</thead>
<tbody>
<tr>
<td>Renzi et al., IJCD 2008</td>
<td>30</td>
<td>6</td>
<td>CT only</td>
<td>success rate 86.2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>no major morbidity</td>
</tr>
<tr>
<td>Lenisa et al., Colorectal Dis 2008</td>
<td>75</td>
<td>12</td>
<td>CT only</td>
<td>success rate 77%</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>no major morbidity</td>
</tr>
<tr>
<td>Isbert et al., Colorectal Dis 2009</td>
<td>150</td>
<td>12</td>
<td>CT (82) vs. PPH (68)</td>
<td>success rate comparable (CCF score)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>no major morbidity</td>
</tr>
<tr>
<td>Wadhawan et al., Colorectal Dis 2009</td>
<td>52</td>
<td>12 (PPH) 6 (CT)</td>
<td>CT (27) vs. PPH (25)</td>
<td>success rate comparable (ODS score)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>symptom resolution 64% and 67%</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>urgency 40% each</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>no major morbidity</td>
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The curved Contour Transtar stapler device did not appear to offer significant advantages over the traditional PPH-01 device during the operation or in the clinical and functional outcomes. However, the lower incidence of fecal urgency and recurrences might justify the higher cost of the new stapler.


Stapled transanal rectal resection with either circular or contour-curved staplers can achieve relief of symptoms in patients with obstructed defecation syndrome. The contour-curved stapler appears to result in more stable clinical results over time.
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- **STAPLED ANOPEXY**
- STARR c/ DPPH
  - 1998

- Bulky Haemorrhoids
  - 2003
- PSP for External Prolapse

- Haemorrhoidal Internal Rectal Prolapse

- Complex Pelvic Prolapse

- «Tailored Treatment»

- STARR c/ Transtar
  - 2007
Constipation

Functional pathologies

- Slow transit
- Pelvic Outlet Obstruction

Organic pathologies

- Pelvic dissinergy
  - Neurogenic, endocrine, metabolic
- Pharmacologic
- Psycopathies

Functional cause

- Mechanical cause

Associated

- Descending Perineum
- Entero-Sigmoidocele
- Uterus and/or vaginal prolapse
- Rectal pathologies
- Intussusception

Pelvic and rectal tumor

- Procidentia
- Rectocele
Ventral Rectopexy

External Rectal Prolapse

Ventral Rectopexy

External Rectal Prolapse

Internal Rectal Prolapse and ODS
- Oxford School
- Bristol School
Indications to LVR

- External Rectal Prolapse
- Internal Rectal Prolapse/Intussusception associated with:
  - Large Stable enterocele
  - Vaginal vault prolapse
  - Sigmoidocele
  - Sphincter Weakness/Incontinence
  - Failed STARR
Clinical Features

- External Rectal Prolapse
- Sphincter Impairment
- Fecal Incontinence
- Pudendal Nerve Impairment
- Outlet Obstruction
- Associated Vaginal Vault Prolapse
Clinical Features

- Internal Rectal Prolapse
- Enterocele at rest
- Posterior Colpocele
- Uterus in place
- Outlet Obstruction
- Perineal Discomfort
Clinical Features

- Internal Rectal Prolapse
- Enterocele at rest
- Posterior Colpocele
- Hysterectomy
- Outlet Obstruction
- Perineal Discomfort
Clinical Features

- Failed STARR
- Enterocele at rest
- Recurrent Intussusception
- Persistent ODS
- Uterus in place
### Table 2. Summary of included studies

<table>
<thead>
<tr>
<th>Study</th>
<th>Group</th>
<th>Operation</th>
<th>Follow-up</th>
<th>Complications/Recurrent rate</th>
<th>Quality (n)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Laparoscopic</td>
<td>5-9 months</td>
<td>Laparoscopic vs. open</td>
<td>4/8 (8%)</td>
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</table>

**Mean Recurrence Rate:**

- Nineteen months median (34-41 range) follow-up for recurrence assessment.
- Forty-five months median (30-56 range) follow-up for recurrence assessment.

**LVR:**

-垂直直腸癌解剖後約一年內的平均再発率是3.4%。
Conclusions

• The role of Internal Rectal Prolapse in ODS is a topic of continuing interest

• STARR confirms as an attractive therapeutic option for ODS in «pure» Internal Rectal Prolapse

• The role of the Median Pelvic Compartment still represents an area of development

• LVR represents an attractive therapeutic option for Multi-Organ Pelvic Prolapse