Prolaps: Anteriore Rektopexie nach D’Hoore

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Rectal prolapse
pathophysiology

female pathology (90%)

congenital
straining
weakened pelvic floor
combined prolapses

Age /gender distribution patient series total rectal prolapse
Symptoms

• Bleeding
• Metaplasia of mucosa
• Strangulation necrosis
• Solitary rectal ulcer
• Soiling and constipation
• Pudendal neuropathy
Treatment:

More than 100 different procedures
Abdominal Surgery

- posterior: Wells (Ivalonge/polyester\textsuperscript{1})
- anterior: ‘Ripstein‘ (polypropylene\textsuperscript{2})
  Suture rectopexie (Sudeck)
  Mobilization only

- Open
- Laparoscopic
- Robot-assisted\textsuperscript{3}

- with resection
- w/o resection

\textsuperscript{1} Dulucq JL et al, Surg Endosc 2007
\textsuperscript{2} D’Hoore A et al, Surg Endosc 2006
\textsuperscript{3} Heemskerk J et al, DCR 2007
Rectal Prolapse

- Prolaps < 5cm
  - Delorme’s procedure

- Prolaps > 5cm
  - Altemeier’s procedure & Levatorplasty

- Patient fit?
  - yes
    - Ventral Rektopexy
  - no
    - PSP

- Abdominal (laparoscopic) approach
  - yes
    - Ventral Rektopexy
  - no
    - Perineal approach
Pelvic floor weakness

- Cystocele
- Colpocele
- Rectocele
- Intussuception
- Rectal Prolapse

→ Pelvic organ prolapse (POP)
Anatomical basis for complex prolapse syndromes of the posterior and middle pelvic compartment

Level I
- cardinal-uterosacral complex

Level II
- rectovaginal septum

Level III
- perineal body

Vaginal Vault prolapse
- Enterocele

High Rectocele

Perineocele
- Descending perineum
- Sphincter defects

Laparoscopic ventral rectopexy

Correct the cause: full thickness intussusception

Correct concomitant enterocele (level I-II), rectocele

Preserve rectal ampulla

Avoid autonomic nerve damage

Reproducible, safe, laparoscopic

D’Hoore et al, Br J Surg 2004
fixation at the site of the intussusception
Sacral promontory dissection
right hypogastric nerve
Firmly retract the prolapse to expose the fold of Douglas.
lap VR - dissection pouch of Douglas
Fixation at the level of the intussusception essential

Mesh lying flat in the RV-septum

Site for ‘colpo’-pexy

mesh secured at the site of the intussusception

Sacral promontory fixation
middle compartment
(enterocoele, vaginal vault prolapse)
Ventral Rectopexy

- 18 patients
- Follow-up 24 months (13-35)
- Success 14/17 (82%)
- CSS 12.6 to 3.9 (P<0.05)
- RSS 14.3 to 2.3 (P<0.05)
- No incontinence, no urge

D’Hoore et al., Br J Surg 2004
Ventral Rectopexy

<table>
<thead>
<tr>
<th></th>
<th>year</th>
<th>n</th>
<th>mo FU</th>
<th>% recurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>D’Hoore et al</td>
<td>2004</td>
<td>42</td>
<td>49.3</td>
<td>4.7</td>
</tr>
<tr>
<td>D’Hoore et al</td>
<td>2006</td>
<td>109</td>
<td>61.0</td>
<td>3.6</td>
</tr>
<tr>
<td>Boons et al</td>
<td>2007</td>
<td>85</td>
<td>29.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Slawik et al</td>
<td>2008</td>
<td>44</td>
<td>54.0</td>
<td>0</td>
</tr>
<tr>
<td>Wijffels et al</td>
<td>2009</td>
<td>80</td>
<td>23.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Bissett et al</td>
<td>2010</td>
<td>728</td>
<td>Sys Rev</td>
<td>3.4</td>
</tr>
</tbody>
</table>
mesh-related complications

overall 9/498 (1.8%) only to the vagina

none in the total rectal prolapse

abort procedure if lesion to muscular wall of the rectum or vagina
Results n=919
septic mesh complications:

Transvaginal prolapse repair: erosion 10.3% within 12 months (n=11.785)

Sacral colpopexy: erosion 4.7% within 23 months (n=1.869)
Ten-year-outcome after LVR

N = 29 patients

Continence

mean Wexner-score (S.D.): 14.05 (3.5)  3.05 (5.8)  4.90 (6.8)
Safety of Laparoscopic Ventral Rectopexy in the Elderly: Results From a Nationwide Database

Fatma A. Gultekin, Mark T. C. Wong, Juliette Podevin, Marie-Line Barussaud, Myriam Boutami, Paul A. Lehur, Guillaume Meurette

- 4303 patients (98.2% women)
- 1263 (29.4%) were >70 years old (mean age, 76.2 ± 5.0 years)
- Retrospective Cohort-study
Safety of Laparoscopic Ventral Rectopexy in the Elderly: Results From a Nationwide Database

<table>
<thead>
<tr>
<th>Parameters, univariate analysis</th>
<th>Group A (&lt;70 y)</th>
<th>Group B (≥70 y)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor postoperative complications, %</td>
<td>5.0</td>
<td>8.4</td>
<td></td>
</tr>
<tr>
<td>Urinary tract infection</td>
<td>2.5</td>
<td>4.7</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Urinary retention</td>
<td>0.7</td>
<td>1.3</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Wound complications</td>
<td>0.6</td>
<td>1.1</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Bleeding</td>
<td>0.7</td>
<td>0.8</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Ileus</td>
<td>0.5</td>
<td>0.5</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Major postoperative complications, % (n)</td>
<td>0.7</td>
<td>0.9</td>
<td></td>
</tr>
<tr>
<td>Accidental puncture or laceration</td>
<td>0.6 (19)</td>
<td>0.5 (6)</td>
<td>0.40</td>
</tr>
<tr>
<td>Intra-abdominal abscess</td>
<td>–</td>
<td>0.1 (1)</td>
<td>0.40</td>
</tr>
<tr>
<td>Acute respiratory failure</td>
<td>0.1 (2)</td>
<td>0.2 (2)</td>
<td>0.40</td>
</tr>
<tr>
<td>Sepsis</td>
<td>0.1 (1)</td>
<td>0.1 (1)</td>
<td>0.40</td>
</tr>
<tr>
<td>Length of stay (day, mean ± SD)</td>
<td>4.7 ± 1.8</td>
<td>5.6 ± 3.6</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Minor complications
5.0% vs 8.4% (P<0.001)

Major complications
0.7% vs 0.9% (P=0.40)
Safety of Laparoscopic Ventral Rectopexy in the Elderly: Results From a Nationwide Database

- Large number of patients
- Multicenter study

- Retrospective design
- Data from a national register
- Selection bias?

Gultekin F. et al, DCR 2015
A Multicenter Collaboration to Assess the Safety of Laparoscopic Ventral Rectopexy

Charles Evans, Andrew R. L. Stevenson, Pierpaolo Sileri, Mark A. Mercer-Jones, Anthony R. Dixon, Chris Cunningham, Oliver M. Jones, Ian Lindsey

- 2203 patients (93 % women), median age, 59y (range 15-82)
- Retrospective review from a pelvic database in 5 centers
- Follow up 36 months

Evans C. et al, DCR 2015
A Multicenter Collaboration to Assess the Safety of Laparoscopic Ventral Rectopexy

Erosion in 2%
Mean after 27 months
20 vaginal
17 rectal
7 recto-vaginal fistula
1 perineal

<table>
<thead>
<tr>
<th>Mesh frequency (%)</th>
<th>Mesh erosions frequency, n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synthetic, N = 1764 (80.1%)</td>
<td></td>
</tr>
<tr>
<td>Polypropylene, n = 1325 (60.1%)</td>
<td>23</td>
</tr>
<tr>
<td>Polyester, n = 279 (12.7%)</td>
<td>18</td>
</tr>
<tr>
<td>Titanium-coated polypropylene, n = 160 (7.2%)</td>
<td>1</td>
</tr>
<tr>
<td>Biological, N = 439 (19.9%)</td>
<td></td>
</tr>
<tr>
<td>Porcine dermal collagen, n = 309 (14.0%)</td>
<td>3</td>
</tr>
<tr>
<td>Porcine intestine submucosa, n = 30 (5.9%)</td>
<td>0</td>
</tr>
<tr>
<td>Total = 42</td>
<td></td>
</tr>
<tr>
<td>Total = 3</td>
<td></td>
</tr>
</tbody>
</table>

Evans C. et al, DCR 2015
A Multicenter Collaboration to Assess the Safety of Laparoscopic Ventral Rectopexy

- Erosion rate is low (2 %)
- Erosion occurs in the first 3 years
- Do not use polyester mesh
- Use absorbable suture
- Biological implants should be considered in treating young women
A Multicenter Collaboration to Assess the Safety of Laparoscopic Ventral Rectopexy

- Large number of patients
- Multicenter study

- Retrospective design
- Not randomised (synthetic/biological Mesh)
- Selection bias?

Evans C. et al, DCR 2015
Anterior rectopexy for full-thickness rectal prolapse: Technical and functional results

Jean-Luc Faucheron, Bertrand Trilling, Edouard Girard, Pierre-Yves Sage, Sandrine Barbois, Fabian Reche

- Retrospective review from database (MEDLINE, PubMed, EMBASE….)
- 12 Non-randomized case studies with 574 patients
Anterior rectopexy for full-thickness rectal prolapse: Technical and functional results

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conversion rate</td>
<td>2.9%</td>
</tr>
<tr>
<td>Complications major</td>
<td>4.8%</td>
</tr>
<tr>
<td>Mesh related</td>
<td>1.2%</td>
</tr>
<tr>
<td>Recurrence rate</td>
<td>4.7%</td>
</tr>
<tr>
<td>Improvement constipation</td>
<td>3-72%</td>
</tr>
<tr>
<td>Worsening constipation</td>
<td>0-20%</td>
</tr>
<tr>
<td>Improvement incontinence</td>
<td>31-84%</td>
</tr>
</tbody>
</table>

Faucheron J-L. et al, WJG 2015
Anterior rectopexy for full-thickness rectal prolapse: Technical and functional results

Faucheron J-L. et al, WJG 2015
% improvement OD and FI lap VR for ERP

<table>
<thead>
<tr>
<th>Study</th>
<th>OD</th>
<th>FI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consten 2015</td>
<td>60</td>
<td>80</td>
</tr>
<tr>
<td>Tsunoda 2015</td>
<td>50</td>
<td>70</td>
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<tr>
<td>Gosselink 2015</td>
<td>45</td>
<td>65</td>
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<tr>
<td>Randall 2014</td>
<td>40</td>
<td>60</td>
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<td>Formijne Jonkers 2013</td>
<td>45</td>
<td>70</td>
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<tr>
<td>Boons 2010</td>
<td>50</td>
<td>75</td>
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<tr>
<td>Cristaldi 2009</td>
<td>55</td>
<td>80</td>
</tr>
<tr>
<td>Verdaasdonk 2006</td>
<td>60</td>
<td>85</td>
</tr>
<tr>
<td>Auguste 2006</td>
<td>70</td>
<td>90</td>
</tr>
<tr>
<td>D'Hoore 2001</td>
<td>80</td>
<td>95</td>
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</tbody>
</table>
Anterior rectopexy for full-thickness rectal prolapse: Technical and functional results

Laparoscopic anterior rectopexy seems to emerge as an efficient procedure for the treatment of patients with total rectal prolapse.
Are we burying our heads in the sand? Preventing small bowel obstruction from the V-loc suture in laparoscopic ventral rectopexy


Using clinical and experimental evidence, we demonstrate that bowel obstruction from the V-loc following laparoscopic ventral rectopexy will still occur despite the technical recommendations to bury or cut its barbed end flush.

Sakata S. et al, Colorectal Disease 2015
Are we burying our heads in the sand? Preventing small bowel obstruction from the V-loc suture in laparoscopic ventral rectopexy

Sakata S. et al, Colorectal Disease 2015
Are we burying our heads in the sand? Preventing small bowel obstruction from the V-loc suture in laparoscopic ventral rectopexy

The risk of bowel obstruction from the V-loc following laparoscopic ventral rectopexy is not negated by burying or cutting its barbed end flush. We have proposed its pathogenesis to refute commonly held assumptions about its prevention.

Sakata S. et al, Colorectal Disease 2015
Rectal Prolapse

- Abdominal (laparoscopic) approach
  - yes
    - Patient fit?
      - yes
        - Ventrale Rektopexy
      - no
        - Perineal approach
          - Delorme’s procedure
          - Altemeier’s procedure & Levatorplasty
  - no
    - Perineal approach
      - Ventrale Rektopexy
      - PSP
Conclusion

Laparoscopic ventral recto(colpo)pexy reproducible and safe technique to correct rectal prolapse syndromes

restores anatomy
improves incontinence (90%)
improves rectal evacuation (70%-80%)