Philosophy of pelvic floor reconstruction

Prof. Dr. Dr. h. c. E. Petri
Greifswald
April 30th - May 4th, 2014

Titanic Deluxe Hotel, Belek - Antalya

TURKISH GERMAN GYNECOLOGY CONGRESS

www.tajev2014.org
There is no condition or disease that cannot be made worse by surgery!
Why talk about the problem ...

10% of all women need surgical repair of pelvic floor disorders (J.O.L. DeLancey 2005)

there are app. 80,000 surgical interventions for incontinence or prolapse in Germany per year

app. 30% are recurrences

increasing number of revisions of complications – increase in legal cases

FDA – warning and recommendation
What are the expectations of our patients?

Robinson et al (Kings College Hospital London) 2013

57 % are happy with a 60% improvement without side effects

38 % accept a minor procedure with a 85 % success rate and a 2% risk of side effects (e.g. self catheterisation)

23 % accept a major operation with a 85 % success rate and a 2% risk of side effects (e.g. self catheterisation)
"I'M SORRY DOCTOR, BUT AGAIN I HAVE TO DISAGREE."
indication for surgery should not be satisfaction of the aesthetic views of the surgeon, how a vagina should look like!
Surgical concepts in stress urinary incontinence

replacement of pubourethral fixation

tension-free tapes

repositioning of the bladder neck into the “abdomino-pelvic” balance (pressure transmission)

colposuspension, trad. slings

Improvement of coaptation

intraurethral injection

Hospital episode statistics 1994-2005

Department of Health – Hospital Episode Statistics
Ward & Hilton, ICS 2006

BCS = Burch colposuspension (item no. 37044). MUS = midurethral sling (item no. 35377). † Item nos. 35602, 37042. † Item no. 37043. † Item no. 37339.
the profit of companies is/was unbelievable ...

Fast-food surgery
many types
easy to get
not necessarily good for your health
muscle- and nerve-density in healthy women and women with prolapse

PB Kaplan et al. Neuourology and Urodynamics 2011; 30:126-132
K. Richter: "You know Petri, most of the young colleagues don’t know anatomy any more, thus are unable to reconstruct it."
<table>
<thead>
<tr>
<th>Procedure</th>
<th>Recent graduate, % (n = 129)</th>
<th>Program director, % (n = 132)</th>
<th>P valuea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pubovaginal sling</td>
<td>13</td>
<td>28</td>
<td>.005</td>
</tr>
<tr>
<td>Retropubic midurethral sling</td>
<td>30</td>
<td>63</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Transobturator midurethral sling</td>
<td>13</td>
<td>29</td>
<td>.003</td>
</tr>
<tr>
<td>Urethropexy</td>
<td>33</td>
<td>62</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Intraoperative cystoscopy</td>
<td>72</td>
<td>88</td>
<td>.001</td>
</tr>
<tr>
<td>Cystotomy repair</td>
<td>53</td>
<td>79</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Vaginal uterosacral vault suspension</td>
<td>28</td>
<td>56</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Sacrospinous ligament suspension</td>
<td>24</td>
<td>33</td>
<td>.126</td>
</tr>
<tr>
<td>Colpocleisis</td>
<td>26</td>
<td>31</td>
<td>.42</td>
</tr>
<tr>
<td>Abdominal paravaginal repair</td>
<td>33</td>
<td>40</td>
<td>.22</td>
</tr>
<tr>
<td>Posterior colporrhaphy</td>
<td>77</td>
<td>90</td>
<td>.006</td>
</tr>
<tr>
<td>Anterior colporrhaphy</td>
<td>79</td>
<td>89</td>
<td>.025</td>
</tr>
<tr>
<td>Rectovaginal fistula repair</td>
<td>17</td>
<td>21</td>
<td>.397</td>
</tr>
<tr>
<td>Anal sphincteroplasty</td>
<td>19</td>
<td>32</td>
<td>.027</td>
</tr>
<tr>
<td>Single-channel cystoscopy</td>
<td>38</td>
<td>57</td>
<td>.003</td>
</tr>
<tr>
<td>Multichannel urodynamics</td>
<td>17</td>
<td>19</td>
<td>.761</td>
</tr>
<tr>
<td>Pessary fittingb</td>
<td>79</td>
<td>89</td>
<td>.025</td>
</tr>
</tbody>
</table>

*a* ^2 test of association.

b Procedures for which the AUSG resident education objectives recommend the highest level of competence, "does."
anti-incontinence surgery from classics to pop and rock etc...

**CLASSICS** – vaginal repairs, Amrech-Richter

**HIP-HOP** – tissue engineering, injectables, Proact, radio frequency, IncontiLase, stem cells...

**ROCK** – TVT, mesh and mod.

**POP** – Burch, trad. slings
TVT – the "original"
Close correlation between experience of the surgeon and the frequency of complications

C.G. Nilsson

skip line

> 40/year
same problem with slings and meshes...

The ensuing mesh kits that came on the market were attractive due to the simplicity involved in the placing of these, and—to put it bluntly—incompetent surgeons found themselves suddenly looking rather competent!
Seventeen years’ follow-up of the tension-free vaginal tape procedure for female stress urinary incontinence

C. G. Nilsson · K. Palva · R. Aarnio · E. Morcos · C. Falconer

Received: 28 January 2013 / Accepted: 5 March 2013 / Published online: 6 April 2013 © The International Urogynecological Association 2013
which direction?
short? long?

TVT P / TVT R

TVT P / TVT TO inside-out?
outside-in?
classical case –
wrong indication and wrong technique
are alloplastic slings really the solution for all and everything?
Colposuspension has emerged as the “golden standard” for the surgical treatment of female urinary incontinence. With a lateral and tangential approach for the placement of the sutures, the rate of obstructed micturition and de novo urgency is low. Success rates of 85% for primary and 70–75% for recurrent incontinence can be achieved. In competition with the tension-free vaginal tape (TVT) procedure, colposuspension will remain the first choice for all laparotomies necessitated by other pathologies, in cases of paravaginal herniation as the cause of prolapse, and in women with unstable bladders caused by anatomical defects. The endoscopic approach has not yet gained general acceptance.
modified colposuspension - our technique
since 1978
> 4500 mod.colposuspensions

Int Urogynecol J
DOI 10.1007/s00192-012-1720-4

ORIGINAL ARTICLE

What do we do when a midurethral tape fails? Rediscovery of open colposuspension as a salvage continence operation

Ilias Giarenis · Heleni Mastoroudes · Linda Cardozo · Dudley Robinson

Received: 2 October 2011 / Accepted: 9 February 2012
© The International Urogynecological Association 2012
hypotonic urethra, ISD
“frozen urethra”, “tethered urethra”,
fistulae after alloplastic slings
intraurethral injection

- paraffine (Meyer 1904)
- sodium murrhate (Murless 1938)
- autologuous fat (Schubert 1956)
- Polytetrafluoroethylene (Teflon®) (Politano/Berg 1973)
- bovine collagen (Contigen®) (Knopp 1977)
- autologous fat (Shortliffe/Garibay 1989)
- silicone particles (Marcoplastic®) (Bucklay 1992)
- Dextranomer/hyaluronic acid (Zuidex®) (Stenberg 1999)
- Carbon beads (Durasphear®) (Lightner 1999)
- Calcium hydroxylapatite (Coaptite®) (Mayer 2001)
- Ethylene vinyl alcohol (Tegress®) (Karram 2003)
- Polyacrylamide hydrogel (Bulkamid®) (Lose 2006)
„new“ techniques...

IncontiLase

proact

stem cells

HF collagen-modulation
Pelvic organ prolapse surgery following hysterectomy on benign indications

Daniel Altman, MD, PhD; Christian Falconer, MD, PhD; Sven Cnattingius, MD, PhD; Fredrik Granath, PhD

OBJECTIVE: The objective of the study was to determine the risk for pelvic organ prolapse surgery attributed to hysterectomy on benign indications

STUDY DESIGN: In a nationwide longitudinal study, 162,488 women with hysterectomy from 1973 through 2003 were matched to 470,519 population-based control women. Hazard ratios (HR) with 95% confidence interval (CI) were calculated using Cox regression analyses.

RESULTS: In all, 3.2% (n = 5270) of women with hysterectomy had pelvic organ prolapse surgery, compared with 2.0% (n = 9437) in nonhysterectomized controls. Compared with nonhysterectomized controls, the overall HR for prolapse surgery was 1.7 (95% CI, 1.6 to 1.7) with the highest risks observed in women having had a vaginal hysterectomy (HR 3.8; 95% CI, 3.1 to 4.8). Compared with hysterectomized women with no vaginal births, the HR for prolapse surgery was 2.0 (95% CI, 0.9 to 4.1) among women with 1 vaginal childbirth and 11.3 (95% CI, 6.0 to 21.1) among women with at least 4 vaginal births.

CONCLUSION: Hysterectomy is associated with an increased risk for subsequent pelvic organ prolapse surgery with multiparous women at particular risk.

Key words: cohort, hysterectomy, prolapse, risk

What is unimportant:
the degree of prolapse
cm in POPQ
singleton urodynamic parameters

What is important:
subjective complaints of the patient
tissue quality (urogenital aging ?)
paravaginal defect
associated pathology
surgical techniques for correction of prolapse

<table>
<thead>
<tr>
<th>A. abdominal</th>
<th>B. vaginal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. sacrocolpopexy</td>
<td>1. sacrospinous fixation</td>
</tr>
<tr>
<td>2. robotic-assisted laparoscopic sacrocolpopexy</td>
<td>2. alloplastic meshes</td>
</tr>
<tr>
<td>3. fixation of the fascia at the rectus abdominis (Williams Operation)</td>
<td>3. Ileococcygeal fixation</td>
</tr>
<tr>
<td></td>
<td>4. levatorplasty</td>
</tr>
<tr>
<td></td>
<td>5. colpopcleisis (Le Fort, Döderle)</td>
</tr>
</tbody>
</table>
When there is good and solid tissue - Why use meshes?
Actual Cochrane Review
anterior compartment +/- Mesh

40 studies (RCT) with 3954 patients
With mesh better anatomical reconstruction
BUT: 10 % mesh-erosions
AND: there is no difference in subjective outcome, quality of life, de novo dyspareunia, stress urinary incontinence and rate of re-operations

Posterior repair with autologous tissue without insertion of a mesh has a success rate of 86% and remains a good option in the primary situation (LOE 1b).

Actually there is no reason to use non-absorbable meshes *routinely* in primary vaginal prolapse surgery in the posterior compartment, taking in account the higher complication rates (LOE 2).
vaginal apex
vaginal approach

Sacropinous fixation (without alloplastic material)
Success rates apex: 92%
Failure anterior compartment (cystocele): 21%
Failure posteriopr compartment (rectocele): 6%

Sacrouterine ligament fixation - McCall
Success rate apex 96%

AWMF-guideline registry Nr. 015/006
sacrospinous fixation for prolapse
(n=1483/10 yrs.)
abdominal sacrocolpopexy

place of fixation

promontory
S 1
S 2-4

but: higher risk of laceration of presacral nerves and venous plexuses in more distal fixation of the mesh
robotic-assisted laparoscopic sacrocolpopexy
AND WHAT IS THE MESSAGE?
HOW ABOUT THE MESSAGE...?!
Own concept

- SUI without serious descent: TVT/TOT
- SUI with paravaginal defect: colposuspension
- primary prolapse: native tissue repair
- prolapse: sacrospinous fixation
- recurrent prolapse: abdominal colpopexy
- multiple recurrence: mesh
- SUI + prolapse: two step procedure
- multiple failures: intraurethral injection
training for the pelvic floor musculature