Surgical Therapy of Urge Incontinence: A new approach for an old problem

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Surgical therapy of Urge Incontinence: a contradiction in term?
We are able to solve the problem of descensus
and stress incontinence
But up to now there is no sufficient therapy of urge incontinence, neither drugs
But up to now there is no sufficient therapy of urge incontinence, neither drugs
nor injections with botulinumtoxin
Results of botulinum injections for the treatment of urge incontinence

- Effect can be seen after 2-3 days
- Duration of effect: in some cases 3-9 months
- No patient showed long lasting positive effects
Medical treatment of urge incontinence

„all drugs for medical treatment of mixed and urge incontinence . . . . have a weak evidence that they are better than placebo“

Alhasso et al.  COCHRANE COLLAB 2007
Our problem up to now: many hypotheses, but no explanation for urge incontinence

The aetiology of OAB is still unknown. However, four theories have been postulated to explain the mechanism of OAB.

The **neurogenic theory** states that there is a reduction in the inhibitory neural impulses and increase in the afferent impulses from the bladder triggering voiding reflex.\(^{13}\)

The **myogenic theory** suggests that the detrusor muscle becomes more sensitive to cholinergic stimulation leading to increased spontaneous activity.\(^{14}\)

The **autonomous bladder theory** suggests that OAB results from the alteration or exacerbation of the phasic activity generated by muscarinic stimulation.\(^{15}\)

The **afferent signalling theory** suggests that spontaneous bladder contractions during filling result in increased afferent output and hence the awareness of the bladder filling.\(^{16}\)

Update on the Management of Overactive Bladder Syndrome

Mohamed Ismail, Hashim Hashim, Paul Abrams

OAB syndrome is a common disorder with a major impact on the patient’s quality of life and a heavy financial burden to both the sufferer and to society. Currently, there is no definitive cure, however, the current treatment modalities aim to control symptoms.

A wide range of treatment modalities .........................

Update on the Management of Overactive Bladder Syndrome
Mohamed Ismail, Hashim Hashim, Paul Abrams
A new approach: surgical therapy of urge incontinence
History: How the idea of a surgical therapy of urge incontinence was born

- Several years before, in patients undergoing exenteration, we generally performed pelvic floor repairs using a mesh for prevention of vaginal prolapse.
- The oncologic effects were limited but a lot of these women reported that their urge incontinence disappeared.
Our daily work: repair of the insufficient ligaments
Usually in pelvic floor surgery only one side is repaired
29 different prolapse operation were published so far -

however

- none intended to repair the utero-sacral ligaments (USL)
Hypothesis:

- Dysfunction of the uterosacral ligaments (USL) is responsible for urge urinary incontinence
Our hypothesis according to the Integral Theory: if you repair one side - never forget the other side!
Method: Standardized operative procedure

• 1. Step: USL are replaced by a 8,8 or 9,3cm tape (Dynamesh) which is fixed at the vagina (VASA) or cervix (CESA)
Product training
Stitch marking
Insertion aid
Ligament augmentation
Vaginal stump / Cervix
Torsion - & bend protection
Rectopexy
Fixation area
Could one standardize the operation (the length of the tapes (USL)) in these women?
The diameters are the same – all over the world!

Abb. 3–28  Bestimmung der Conjugata vera durch Abgreifen der Conj. diagonalis.
Abb. 3–29  Die beiden wichtigsten geraden Durchmesser des Beckeneinganges: Conj. vera (obstetrica) = Verbindung zwischen der Mitte des Promontoriums und dem am weitesten vorspringenden Teil der Symphysenhinterwand = normal 11 cm; Conj. diagonalis = Verbindung zwischen Mitte des Promontoriums und dem unteren Rand der Symphyse = 12,5 bis 13 cm. Nach neuen Magnetresonanz-Messungen wird für die Conj. diagonalis 13,5 cm und für die Conj. vera 12,0 angegeben.
## Таблица 82-2. Основные размеры некоторых форм таза, см

<table>
<thead>
<tr>
<th>Форма таза</th>
<th>D. spinatum</th>
<th>D. cristatum</th>
<th>D. trochanteric</th>
<th>C. externum</th>
<th>C. diagonalis</th>
<th>C. vera</th>
</tr>
</thead>
<tbody>
<tr>
<td>Нормальный</td>
<td>25-26</td>
<td>26-29</td>
<td>30-31</td>
<td>20</td>
<td>12,5-13,0</td>
<td>11</td>
</tr>
<tr>
<td>Попереко-сжатый</td>
<td>24-25</td>
<td>25-26</td>
<td>28-29</td>
<td>20</td>
<td>12,5</td>
<td>11</td>
</tr>
<tr>
<td>Общеразмерно-сжатый</td>
<td>24</td>
<td>25</td>
<td>28</td>
<td>18</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>Простой плоский</td>
<td>26</td>
<td>29</td>
<td>30</td>
<td>11</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>Плоскоквадратный</td>
<td>26</td>
<td>26</td>
<td>31</td>
<td>17</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>С уменьшением прямого размера ширины полости</td>
<td>26</td>
<td>29</td>
<td>30</td>
<td>20</td>
<td>12,5</td>
<td>11</td>
</tr>
</tbody>
</table>

## Таблица 82-3. Характеристика различных форм узкого таза

<table>
<thead>
<tr>
<th>Таз</th>
<th>Размеры таза, см</th>
<th>Форма входа таза</th>
<th>Большая дуга</th>
</tr>
</thead>
<tbody>
<tr>
<td>Поперечный</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Межкостный</td>
<td></td>
<td></td>
<td>Овальная</td>
</tr>
<tr>
<td>Межтуберезный</td>
<td></td>
<td></td>
<td>Средняя</td>
</tr>
<tr>
<td>Прямой</td>
<td></td>
<td></td>
<td>Продольно-овальная</td>
</tr>
<tr>
<td>Прямой входа таза</td>
<td></td>
<td></td>
<td>Узкая</td>
</tr>
<tr>
<td>Прямой широкой части полости</td>
<td></td>
<td></td>
<td>Средняя</td>
</tr>
<tr>
<td>Прямой узкой части полости</td>
<td></td>
<td></td>
<td>Окружностная</td>
</tr>
<tr>
<td>Простой плоский</td>
<td></td>
<td></td>
<td>Широкая</td>
</tr>
<tr>
<td>Плоскоквадратный</td>
<td></td>
<td></td>
<td>Поперечно-овальная</td>
</tr>
<tr>
<td>Общеразмерно-сжатый</td>
<td></td>
<td></td>
<td>Средняя</td>
</tr>
</tbody>
</table>

Для механизма родов при общеразмерно-сжатом тазе характерно сливание головки во входе таза. Максимальное сливание при переходе из широкой части полости в узкую, диапозитивная конфигурация головки (табл. 82-4). Осложнения в родах для матери и плода

У женщин с узким тазом часто возникают неправильные положения головки: поперечные, косые, также предлежания, подвижность головки во входе в таз в конце беременности, преждевременное излияние околоплодных вод. При 1 степени сужения таза и средних размерах плода возможны самопроизводные несомные роды. При 2 степени сужения таза большая продолжительность родов создает угрозу здоровья женщины и повышает риск...
Method: Standardized follow up

• 2. Step: Patients are examined at 2, 4, 8 and 16 weeks after surgery
Method: Standardized operative procedure

3. Step: If patients are not cured, a TOT is placed. This procedure is standardized, placing Hegar 8 into the urethra and two Hegar 4 between urethra and the tapes.
Surgical Treatment of Mixed and Urge Urinary Incontinence in Women

Wolfram Jäger    Olga Mirenska    Sabine Brügge

Urogynaecology Unit, Department of Obstetrics and Gynecology, University of Cologne, Cologne, Germany
<table>
<thead>
<tr>
<th></th>
<th>Operation:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>VARESA</td>
</tr>
<tr>
<td>Number of patients:</td>
<td>66</td>
</tr>
<tr>
<td>Mean age (± 2 SD):</td>
<td>62 (49–75)</td>
</tr>
<tr>
<td>Stress</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>32</td>
</tr>
<tr>
<td>Yes</td>
<td>58</td>
</tr>
<tr>
<td>p</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Holding</td>
<td></td>
</tr>
<tr>
<td>No problem</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Longer than 3 min but less than 10 min</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Less than 3 min</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Frequency</td>
<td></td>
</tr>
<tr>
<td>No problem</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Between 8 and 15 times per day</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>More than 15 times per day</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>

Each patient is categorized according to her stress, holding and frequency symptoms. Number and mean age (95% ± 2 SD) of patients and change of symptoms before and after the respective surgery including TOT. Categories of symptoms according to table 1.
CESA and VASA  (and TOT 8/4)
1.10.2012 - 1.2.2014

204

130
VASA

61
TOT 8/4
69 (53%) cured
40 (30%) cured

74
CESA

33
TOT 8/4
19 (25%) cured
41 (55%) cured

21 (17%) unchanged
14 (20%) unchanged

1.2.2014
mixed incontinence

413 patients

205 patients

urge incontinence

208 patients

413 patients

201 VARESA, 212 CERESA

73 patients

128 patients

134 patients

78 patients

262 patients

TOT

49 patients (24.4%) not healed

42 patients (20.2%)

success rate: 322 patients (78%) continent
Results: What does cure means

- No abnormalities in voiding anymore
- Normal frequency
- No feeling of Urge
• Potentially urge incontinence is caused by a dysfunction of both USL
Summary

• In retrospective studies with up to now more than 700 patients with urge incontinence, approx. 50% of all patients could be cured at least initially

• Adding a TOT the cure rate can be increased up to 80%
Future

- These preliminary results must be confirmed in a prospective multicenter study (Urge I and Urge II). These studies have already started.
- Up to now, the follow up is too short to claim that this method is really able to cure urge incontinence long lasting.
• But in any way, due to the standardization of the procedure, every urogynecologist is principally able to replicate this procedure and make their own experiences with the here presented method.
Everyone is invited to watch the procedure in our hospital to get acquainted with this procedure.