**W12: Complications in Pelvic Organ Prolapse and Stress Urinary Incontinence Management.**

Workshop Chair: Vincenzo Li Marzi, Italy
12 September 2017 11:00 - 12:30

<table>
<thead>
<tr>
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**Speaker Powerpoint Slides**
Please note that where authorised by the speaker all PowerPoint slides presented at the workshop will be made available after the meeting via the ICS website [www.ics.org/2017/programme](http://www.ics.org/2017/programme) Please do not film or photograph the slides during the workshop as this is distracting for the speakers.

**Aims of Workshop**
In this workshop the delegates will learn how to recognise, manage and treat the complications of Pelvic Organ Prolapse (POP) treatment: surgical and not surgical.

**Learning Objectives**
1. Diagnosis of complication.
3. Treatment of complication.

**Learning Outcomes**
After the course the learners will be able to recognise, manage and treat in a correct way the complications that may occur after treatment of Pelvic Organ Prolapse (surgical and not).

**Target Audience**
Urologist and Gynaecologist, Urogynecologist, Nurse.

**Advanced/Basics**
Advanced

**Suggested Learning before Workshop Attendance**
Delegates should have practice in Pelvic Organ Prolapse (POP) management, POP surgical repair, and SUI surgical treatment. Nurse should know what is a POP and how to manage it conservatively. Moreover, they should known what is Urinary Incontinence.

**Suggested Reading**

   Haylen BT1, Maher CF2, Barber MD3, Camargo S4, Dandolu V5, Digesu A6, Goldman HB3, Huser M7, Milani AL8, Moran PA9, Schaer GN10, Withagen MI11.

2. Frailty and the role of obliterative versus reconstructive surgery for pelvic organ prolapse; a national study.

Introduction

Vincenzo Li Marzi, urologist- Italy

The treatment for stress urinary incontinence (SUI) and pelvic organ prolapse (POP) is very common in the female gender and is gradually increasing. Many women are living longer and have a high expectation for quality of life beyond menopause including an active life-style and the capacity for sexual activity.

Recognizing and dealing with a complication related to the treatment of SUI and POP has become an essential issue in current clinical practice. While mid-urethral slings are considered the current standard of care, there is no ideal surgical technique for the treatment of POP nor an ideal mesh or graft able to reconstruct the anatomy and functionality of the pelvic floor with minimal risk of complications.

In this workshop, thanks to three speakers with extensive experience in female pelvic floor dysfunctions, we will provide a comprehensive overview of all possible complications of the available treatments of SUI and POP and their management.

Conservative and Abdominal Surgical POP Treatment: Complications

Maurizio Serati, gynecologist - Italy

The most considered conservative treatment in case of POP is the use of the ring pessary. Different pessaries have been used for the treatment of prolapse since the 15th century BC. There are over 120 available pessaries for use, with 20 in common use worldwide. However, very few long-term data have been published on sustained ring pessary use, and long-term complication rates have not been examined. However, some recently published studies demonstrated that the many different complications of pessary use exist, in particular vaginal bleeding, severe vaginal discharge, extrusion of the device, severe discomfort, severe constipation and provoked or worsening urinary symptoms. These complications occurred in more than 50% of women treated using this device. These findings are true regardless of type of pessary.

The abdominal surgery to correct POP includes three different approach: open, laparoscopic and robotic assisted. One of the most important limitations in the available evidence on the abdominal treatment of POP is just that too many different surgical interventions, too many different meshes, too many different methods to fix the mesh exist. Therefore, also the list of the
Intraoperative and postoperative complications are not at all homogeneous, reflecting the significant heterogeneity among studies. The intraoperative complications are not frequent and they include: bleeding, vaginotomies, bladder injuries, ureteral injury, and bowel injuries. We can find in the available literature also some strange and very rare complications; for example some authors described that a suture with its needle was lost and a 2-cm incision for needle retrieval was necessary.

Moreover, the postoperative complication rates are significantly higher and more relevant. It is well-demonstrated that the most important and reported complication is the mesh erosion. Overall, the postoperative complication rate is 10-15%. Focusing on severe complications, cases of bowel obstructions, port site hernia, port site nerve entrapment, abscess, peritonitis due to bowel injury, vaginal cuff dehiscence and feeling of traction requiring secondary surgery were described.

The rate of mesh erosion among different studies ranged between 0% and > 10%. Possible risk factors for developing mesh erosion include vaginotomy and concomitant execution of total hysterectomy. Several authors, comparing the execution of supracervical versus total hysterectomy before the execution of sacrocolpopexy, suggested that the execution of total hysterectomy is related to an increased risk of developing mesh erosion. Controversially, the use of a lightweight mesh could be considered a protective factor.

It is promising that many different surgical and non surgical options to treat POP with a good cure rate are available. However, it is mandatory to remember and to consider that every possible treatment presents the risk of occurrence of possible complications, even severe.

**Urinary incontinence treatment associated to POP surgical repair: Complications**

**Matteo Balzarro, urologist- Italy**

Stress urinary incontinence (SUI) and pelvic organ prolapse (POP) are prevalent conditions that are often managed surgically.

In the case of women in whom both of these pathologies are present, it is possible to perform their surgical treatment in a single operating session. In this specific case, SUI should be well evaluated and the concomitant presence of Lower Urinary Tract Symptoms (LUTS) investigated. The presence of pathological conditions such as bladder overactivity, detrusor underactivity or areflexia, or the routine use of wrong voiding attitudes such as the use of Valsalva can lead to unexpected results. In particular, urodynamical examination is an indispensable investigation that helps to better understand the dynamics between POP and SUI. This investigation should therefore be carried out without, and with the reduction of prolapse. Prolapse reduction should not cause urethral obstruction in order to do not hide SUI and allow proper measurement of VLPP. The use of videourodynamic testing can help to better understand the relationship between POP, urethra and SUI.

When you decide to treat a patient with POP and SUI in the same surgical session it is good rule to treat the POP first. If urinary incontinence was first corrected, the POP treatment could then modify the pelvic static with continence results other than expected. The possible complications in these patients are related both to the surgical technique used for itself, and to the presence of a pelvic floor that was corrected shortly before. If treating a patient with a Middle Urethral Sling (MUS) is a relatively simple surgery, doing so in a patient who has been corrected for a POP can become a very complex procedure. Last but not least is the type of anesthesia performed during the surgical procedure. It is well known how the use of spinal anesthesia can lead to retention of urine in postoperative. This risk rises with the use of certain drugs. The complications related to surgical techniques are manifold: direct injuries to the pelvic floor organs, bleeding and hematoma, urine retention (POUR), extrusion of synthetic material, etc. Treatment of such complications begins to prevent them. In this sense, correct patient evaluation, proper counseling, and good situation awareness in the operating theatre are basic rules. If intraoperative complications arise, their proper management begins with the recognition of the complication itself. Complications such as POUR or prosthetic material extrusion can be addressed differently and with different timing. In conclusion, correction in the same operating session of a POP and SUI is desirable but it is good that it is carried out in expert hands. Some rules can help your expertise in this field.

**Vaginal Surgical POP Treatment Complications**

**Frank Van der Aa, urologist- Belgium**

Women with POP often undergo vaginal surgery as this surgery is less invasive than abdominal surgery. Unfortunately, both native tissue repair and POP repair with use of vaginal mesh give rise to some common and some specific complications.

Common complications of vaginal surgical POP treatment include pain and dyspareunia.

Treatment depends on the underlying cause and timing of the symptoms. Pain that was not present preoperatively and that is reproduced by clinical examination (due to scar formation, suspension stitches or mesh tension/contraction/shrinkage) can be treated surgically. The same holds true for dyspareunia after vaginal POP repair. Other pain syndromes cannot always be treated surgically. A more holistic approach using physiotherapy and neuropathic pain medications can offer alleviation of these complaints.

Infection and urinary retention can occur both in native tissue repair as in vaginal mesh surgery. Perforating sutures or mesh material should be looked for and surgically treated. Further investigation of bladder emptying disorders after vaginal POP repair (+/- incontinence treatment) includes a micturition diary, cystoscopy and urodynamic investigation. Obviously, treatment will depend on the findings of these investigations. Often, a surgical release can solve the problem.

Mesh specific complications include exposure and perforation in several organs. Mainly the exposure rates after vaginal mesh implant seem to be higher than previously thought. We will discuss the treatment of exposure, going from asymptomatic small exposure to larger and symptomatic exposures.

After this course, the participant should have an idea of the prevalence of the above mentioned complications, the diagnostic work up and the treatment modalities of the different complications after vaginal POP surgery.
**WORKSHOP 12**

**COMPLICATIONS IN PELVIC ORGAN PROLAPSE AND STRESS URINARY INCONTINENCE MANAGEMENT**

Vincenzo Li Marzi, MD  
Chair of Urogynecological Section  
Dept. of Urology, A.O.U. Careggi - Florence, Italy

Tuesday 12th September 2017

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**Learning Objectives**

1. Diagnosis of complication  
2. Management of complication  
3. Treatment of complication

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**Speakers**

- **Vincenzo Li Marzi**
- **Maurizio Serati**
- **Matteo Balzarro**

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**W12: Complications in Pelvic Organ Prolapse and Stress Urinary Incontinence Management**

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**Workshop #12: Advanced**

1. Diagnosis of complication  
2. Management of complication  
3. Treatment of complication

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**Affiliations to disclose**:  

- **Allergan**  
- **Speaker Honorarium**  
- **Wellspect HealthCare**  
- **Speaker Honorarium**  
- **Other: Treasurer of Italian Urodynamic Society (SIUD)**

Funding for speaker to attend:  

- Self-funded
- Institution (non-industry) funded  
- Sponsored by: Allergan

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**Funding for speaker to attend**:  

- Self-funded  
- Institution (non-industry) funded  
- Sponsored by: Astellas

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**Funding for speaker to attend**:  

- Self-funded
- Institution (non-industry) funded
- Sponsored by: Pierre Fabre

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Complications in Pelvic Organ Prolapse and Stress Urinary Incontinence Management

**Conservative and Abdominal Surgical POP Treatment Complications**

MAURIZIO SERATI
Associate Professor - Urogynecology – University of Insubria - Varese

Conservative treatment

Abdominal surgery

Pessary

openLPS\textregistered robotic
Conservative and Abdominal Surgical PGP Treatment Complications

**CONSERVATIVE TREATMENT: PESSARY**

- Introduced since 15th century BC
- More than 120 types available
- About 20 commonly used

**CONSERVATIVE TREATMENT: PESSARY**

**HOWEVER**

- Few long-term data

**PESSARY**

- At least 6 yr
- 273 women
- Length of use and complications (bleeding, extrusion, malodorous vaginal discharge, constipation, incontinence)

**PESSARY**

Conclusions: We were surprised to find a 56% complication rate in pessary users. Our study shows that, over time, the majority of women chose to discontinue using pessaries. Women should be informed of these data when deciding on the management of their pelvic organ prolapse.
PESSARY

Table 2. Complications of vaginal pessary

<table>
<thead>
<tr>
<th>Event</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bleeding</td>
<td>44 (45.5)</td>
</tr>
<tr>
<td>Dyspareunia</td>
<td>26 (27.6)</td>
</tr>
<tr>
<td>Vaginal discharge</td>
<td>24 (25.5)</td>
</tr>
<tr>
<td>Parastomal hernia</td>
<td>24 (25.5)</td>
</tr>
<tr>
<td>Incision</td>
<td>3 (3.1%)</td>
</tr>
<tr>
<td>Theca for removal</td>
<td>2 (1.1%)</td>
</tr>
</tbody>
</table>

Figure 5. Graph of duration of pessary use in those who discontinued pessary use.

Not possible to predict in advance women that will present complications.

CONSERVATIVE TREATMENT: PESSARY

**Prevention:** Not possible

**Diagnosis:** Observation and examination

**Treatment:** Removal

Clinical use of ring with support pessary for advanced pelvic organ prolapse and predictors of its short-term successful.

**PREDOMINANT ANTERIOR WALL PROLAPSE PREDICTIVE OF SUCCESSFUL PESSARY**

**Prevention:** Sometimes possible

**Diagnosis:** Observation and examination

**Treatment:** Removal
CONSERVATIVE TREATMENT: PESSARY

Prevention: Sometimes possible
Diagnosis: Observation and examination
Treatment: Removal

Conservative and Abdominal Surgical POP Treatment Complications
Abdominal Surgical POP Treatment Complications

Mesh erosion after abdominal sacrocolpopexy pelvic organ prolapse repair

Abdominal Surgical POP Treatment Complications

Classifications

Mesh erosion after abdominal sacrocolpopexy pelvic organ prolapse repair

Abdominal POP Complications

size of the problem
# Abdominal POP Complications

## Table 1: Weighted Average and Confidence Intervals of Complications, Stoma Closure, Prostate, Resorption Rate, and Total Resorption Rate

<table>
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<th>Year</th>
<th>Traditional Vaginal Repair</th>
<th>Total Complications</th>
<th>Weight</th>
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<tr>
<td>2009</td>
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## Table 2: Weighted Average and Confidence Intervals of Complications, Stoma Closure, Prostate, Resorption Rate, and Total Resorption Rate

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# Abdominal Surgical POP Treatment Complications

## Table 3: Perioperative adverse events after minimally invasive colorectal cancer surgery

<table>
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<tr>
<th>Event</th>
<th>Mean (SD)</th>
<th>Median (IQR)</th>
<th>Min (Max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wound infection</td>
<td>0.18 (0.3)</td>
<td>0 (0)</td>
<td>0 (2)</td>
</tr>
<tr>
<td>Urinary tract infection</td>
<td>0.15 (0.2)</td>
<td>0 (0)</td>
<td>0 (1)</td>
</tr>
<tr>
<td>Respiratory failure</td>
<td>0.12 (0.2)</td>
<td>0 (0)</td>
<td>0 (1)</td>
</tr>
<tr>
<td>Cardiac arrest</td>
<td>0.08 (0.1)</td>
<td>0 (0)</td>
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## Table 4: Perioperative adverse events after minimally invasive colorectal cancer surgery

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Abdominal Surgical POP Treatment Complications

- **Incidence**: 0 - 33%
- **Recent articles**: 0 - 7.2%

2016

Abdominal Surgical POP Treatment Complications

**EROSION**: risk factors

Risk factors for mesh erosion after female pelvic floor reconstructive surgery: a systematic review and meta-analysis

Tao Deng, Fenghao Liu, Deq Lin, Hong Shen, and Kunjie Wang
Department of Urology, West China Hospital, Sichuan University, Chengdu, Sichuan Province, China

Our study indicates that younger age, more parities, premenopausal/ERT, diabetes mellitus, smoking, concomitant hysterectomy, and surgery performed by a junior surgeon were significant risk factors for mesh erosion after female pelvic floor reconstructive surgery. Moreover, concomitant
Abdominal Surgical POP Treatment Complications

EROSION: risk factors

The presenting symptoms vary depending on the organ involved. For example, vaginal mesh extrusion may result in vaginal bleeding, abnormal discharge, dyspareunia or vaginal pain. Symptoms of mesh erosion into the bladder/urethra include painful voiding, urinary frequency, urgency, hematuria, recurrent urinary tract infection, urinary calculi and urinary fistula.
Abdominal Surgical POP Treatment Complications

**EROSION: treatment**

There is limited data on the optimal cost-effective management of mesh exposure. No single approach is suitable for all cases, and the choice of the technique used should be based on the nature of the exposure, its magnitude and severity and associated incidence of postoperative urinary retention (Tables 46-47, 103-105).

**...therefore....**

**Management of vaginal erosion:**

In all cases, it should be pragmatic to perform a precise examination of the vagina before any surgery begins. The vagina itself is a tunnel approach to the repair, which includes the need for adequate exposure and instrumentation (Figure 8).

**Partial removal of mesh:**

The extruded part of the mesh is carefully examined for signs of infection. The vaginal approach is a satisfactory technique to evaluate the extruded mesh in order to have adequate exploration of the vaginal pouch and resection of the extruded mesh (Figure 8).

**EROSION: conservative treatment**

- **KARGER**
- **(Original Paper)**
- **Managing Mesh Erosion after Abdominal Pelvic Organ Prolapse Repair: Ten Years’ Experience in a Single Center**
- **Urology**
- **24(2): 50-54, 2007**

Objective: To report conservative and surgical strategies for treatment of mesh erosion after pelvic organ prolapse (POP) repair. Methods: Between 1998 and 2002, 179 patients underwent pelvic organ prolapse repair for advanced POP and were treated with an allograft. All patients were followed up for at least 18 months, and patients were divided into two groups: group 1 had a conservative approach to the treatment of erosion and group 2 had surgical repair. Results: 12 patients were diagnosed and treated for mesh erosion. Of the 12 patients, 6 were treated conservatively and 6 were treated surgically. Conservative management included a combination of antifungal and antiseptic treatment, and the patients were followed up for at least 12 months. The success rate of conservative management was 50% (3/6). Surgical repair was performed on patients with persistent erosion, and the patients were followed up for at least 18 months. The success rate of surgical repair was 83.3% (5/6).

**EROSION: conservative treatment**

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**Abdominal Surgical POP Treatment Complications**

**Erosion:** surgical treatment

CONCLUSION: Transvaginal excision of mesh with or without endoscopy appears to be a safe and less invasive method for excision of eroded vaginal mesh after prior abdominal sacrectomy. Up to 3 vaginal erosion attempts may be necessary to achieve symptom resolution, and complete removal of mesh will likely improve outcomes with the transvaginal technique. Although abdominal excision can be considered the gold standard for excision of eroded mesh, it is not without potentially increased morbidity.

**MESH INFECTION**

- Very rare now, after the introduction of macropores polypropylene monofilament
- Removal of the whole mesh

**Abdominal Surgical POP Treatment Complications**

**Mesh Retraction**

- Severe pain
- Dyspareunia
- Vaginal tightness and shortening

**Mesh Retraction**

First choice: MEDICAL TREATMENT

Failure

SURGICAL TREATMENT

**Dyspareunia**

MESH... BOH ...

Dyspareunia de novo: 2-48%

**PAIN**

MESH... BOH ...

Pain de novo: 2-24%
Abdominal Surgical POP Treatment Complications

**DYSPAREUNIA AND PAIN**

...Removal of the whole mesh...

**BUT SAME COMPLICATIONS FOR EVERY APPROACH?**

**Abdominal POP Complications**

<table>
<thead>
<tr>
<th>Year</th>
<th>Data</th>
<th>Description</th>
</tr>
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<tbody>
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<td>2014</td>
<td>SGS Papers</td>
<td>Peripertor adverse events after minimally invasive abdominal sacrocolpexies</td>
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No difference
...in conclusion...

How many complications?

WHAT SOLUTION?

BOH

BOH

...BUT...
REMOVAL!!!
Sometimes it is better to remain silent and appear stupid than open your mouth and remove all doubts.

Thank you.
Complications of vaginal prolapse surgery: diagnosis, management and treatment
Frank Van der Aa, MD, PhD
Urology, Pelvic Floor Unit
Department of development and regeneration

UZ Leuven, Dept. of Urology, Belgium

Preoperatively discuss with the patient:

• Indication for surgery
  – Which symptoms will improve
  – Which symptoms will likely not improve
• Indication for synthetic material
  – Type of material
  – Training and experience of the surgeon
• Possible complications and their solutions

“better spend time with the patient before surgery then with the lawyer after surgery”

PAIN AND DYSPAREUNIA

“doctor, I feel pain after having the surgery”

“new onset (chronic) pain after vaginal prolapse repair is always an alarm sign. Take the patient seriously and look for complications/treatable conditions”

Mesh trial

<table>
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<th>Synthetic mesh (n=345)</th>
<th>Biological graft (n=334)</th>
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<tr>
<td>Symptomatic prolapse*</td>
<td>100% (339/340)</td>
<td>94% (328/345)</td>
<td>99% (339/334)</td>
</tr>
<tr>
<td>Urinary incontinence (severe)</td>
<td>21% (72/350)</td>
<td>21% (74/354)</td>
<td>22% (75/336)</td>
</tr>
<tr>
<td>Fecal incontinence (moderate)</td>
<td>28% (51/182)</td>
<td>29% (51/176)</td>
<td>30% (50/167)</td>
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<tr>
<td>Dyspareunia</td>
<td>10% (34/340)</td>
<td>8% (28/345)</td>
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*POP-SS of > 0 !!

Prospect trial

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Glazener et al Lancet 2017
Clinical approach

• **History**
  – Detailed pain history
  • Location/radiation
  • Time of onset/duration (preexisting pain?)
  • Aggravating/relieving factors
  • Nature (dull/aching/needles/...)
  – Associated symptoms
  • Discharge
  • Bleeding
  • UTI’s

• **Clinical examination**
  – Lithotomy position
  – Speculum
  – Vaginal surgery scars/contracture/fixation/mesh extrusion/fistulae/...visual and palpation
  – Pain reproducible by palpation?
  – Nerve entrapment signs? Trigger points?
  – Muscle tone
  
  If necessary: perform clinical examination under general anesthesia
  Repeat clinical examination

• **Technical investigations**
  – Always perform cystoscopy
  – Consider additional investigations if questions remain unanswered
  • ultrasound
  • (CT, MRI)
  • EMG
  – Referral to gynecologist/ gastroenterologist/ colorectal surgeon/... for further investigation

• **Surgical if:**
  – Complicated mesh (extrusion/fixation)
  ➔ Partial/total excision
  – Abnormal tensioning (sutures/mesh) (“like string”) (due to shrinkage/contracture)
  ➔ Partial/total excision
  – Fistulae
  ➔ Fistula repair +/- mesh excision
  ➔ Abdominal vs. vaginal

• **“Medical” if:**
  – Pre-existing pain
  – No clear, reproducible pain on clinical examination
  – Persisting pain after surgical treatment
  – Painkillers ➔ neuropathic pain meds
  – Pelvic floor muscle physiotherapy
  – Locoregional blocks
  – Psychological (sexuological) help
Refrain from further surgery
Offer medical treatment

Post POP surgery pain
Pre-existing?

Resolved?

yes

no

Refer to specialized pain center

Resolved?

no

Clinical examination cystoscopy

Complications?

yes

no

Treat complications surgically

Resolved?

no

Refer to specialized pain center

Resolved?

yes

Clinical examination cystoscopy

Complications?

yes

no

Treat complications surgically

Resolved?

no

Refer to specialized pain center

Resolved?

yes

Clinical examination cystoscopy

Complications?

yes

no

Treat complications surgically

Resolved?

no

Refer to specialized pain center

Resolved?

yes

Clinical examination cystoscopy

Complications?

yes

no

Treat complications surgically

Resolved?

no

Refer to specialized pain center

Resolved?

yes

Clinical examination cystoscopy

Complications?

yes

no

Treat complications surgically

Resolved?

no

Refer to specialized pain center
lessons

- Always document preoperative status!
- Pre-existing pain will be attributed to the surgery
- Post-surgical pain exists and can be treated
  - Surgically if specific
  - Medically
  - Supportive (multidisciplinary)

Specific causes of postoperative dyspareunia

- Mesh exposure
- Mesh shrinkage/tension
- Sutures
- Vaginal synechiae

lessons

- In general dyspareunia is less present after POP repair then before
- Some specific causes of dyspareunia can be solved by repeat surgeries
- As in general pain symptoms: thorough history and clinical examination is the cornerstone
“de novo stress urinary incontinence will occur in up to 40% of patients adequately treated for POP. Vesicovaginal fistulae are a very rare complications of POP repair.”

Wei et al NEJM 2012

Patient counseling

Adequate PREOP clinical examination

- With filled bladder
- Coughing and valsala
- Lithotomy and if necessary standing
- With prolapse reduction stress test

To sling or not to sling

A Midurethral Sling to Reduce Incontinence after Vaginal Prolapse Repair

Wei et al NEJM 2012

OPUS trial

- Women “without clinical SUI”
- Multicentric RCT
- treated between 2007 and 2011
- Randomised 1:1 to
  - Vaginal POP repair + sham
  - Vaginal POP repair + TVT

Outcome

<table>
<thead>
<tr>
<th></th>
<th>TVT</th>
<th>sham</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive cough stress test</td>
<td>Preop</td>
<td>54/165 (33%)</td>
</tr>
<tr>
<td>3M</td>
<td>30/158 (16,1%)</td>
<td>54/157 (34,4%)</td>
</tr>
<tr>
<td>12M</td>
<td>9/141 (6,4%)</td>
<td>31/151 (20,5%)</td>
</tr>
</tbody>
</table>

In the group of patients with a positive prolapse reduction stress test group

<table>
<thead>
<tr>
<th></th>
<th>TVT</th>
<th>sham</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postoperative incontinence symptoms</td>
<td>29,6%</td>
<td>71,2%</td>
</tr>
</tbody>
</table>

Wei et al NEJM 2012
Safety issues

<table>
<thead>
<tr>
<th>Adverse events</th>
<th>TVT</th>
<th>sham</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bladder perforation</td>
<td>11/164  (6.7%)</td>
<td>0/172</td>
<td>&lt; 0.01</td>
</tr>
<tr>
<td>Mesh exposure</td>
<td>0/160</td>
<td>0/171</td>
<td></td>
</tr>
<tr>
<td>U/TI</td>
<td>49/158 (31.0%)</td>
<td>30/164 (18.3%)</td>
<td>0.008</td>
</tr>
<tr>
<td>Major bleeding</td>
<td>5/164 (3.0%)</td>
<td>0/172</td>
<td>0.03</td>
</tr>
<tr>
<td>Incomplete bladder emptying</td>
<td>69/162 (42.0%)</td>
<td>51/170 (30.0%)</td>
<td>0.02</td>
</tr>
<tr>
<td>At discharge</td>
<td>9/163 (5.5%)</td>
<td>1/169 (0.6%)</td>
<td>0.01</td>
</tr>
<tr>
<td>At 2 wk</td>
<td>6/163 (3.7%)</td>
<td>0/170</td>
<td>0.01</td>
</tr>
<tr>
<td>At 6 wk</td>
<td>4/165 (2.4%)</td>
<td>0/172</td>
<td>0.06</td>
</tr>
</tbody>
</table>

Wei et al NEJM 2012

lessons

- Adequate preoperative counseling
- Test (clinically) for occult SUI
- Consider concurrent MUS when performing vaginal POP surgery

“doctor, I think the surgery has failed”

- recurrent lump feeling...

RECURRENT PROLAPSE

Clinical problem

- Failure rate of native tissue primary repair is estimated around 17-20% in 10 yr
- BUT the authors classified retropubic suspensions and suburethral sling surgery as anterior compartment procedures.
- Up to 33% will require secondary prolapse compartment procedures


Prevalence of repeat prolapse...

- Awareness of prolapse after 1 to 3 years post repair varies between +/- 13% (mesh groups) to 18-30% (native tissue groups)
  RR 1,77
- Recurrent anterior wall prolapse after 1 to 3 years varies between 13% (mesh groups) to 32-45% (native tissue groups)
  RR 3,01

Maher et al Cochrane Database Syst Rev 2016: CD004014
Prevalence of repeat prolapse...

- Stage 2 or greater posterior or apical compartment prolapse after 1 to 3 years varies between +/- 18% (mesh groups) to 5-18% (native tissue groups)
  RR 0.54
- Repeat surgery for prolapse after 1 to 3 years varies between 2% (mesh groups) to 2-7% (native tissue groups)
  RR 2.03


Lessons

- Prolapse in the same compartment is relatively frequent (although absolute numbers are not well known)
- Prolapse in other compartments is also relatively frequent
- Both may require additional procedures but are not always clinically relevant
- Long term follow up data are lacking

Conclusions

- Only treat symptomatic/high grade POP
- Pain has to be investigated and can be treated in many patients. A full recovery cannot always be achieved
- Take incontinence into account prior to vaginal POP surgery
- Recurrence rates in the anterior compartment are somewhat better after mesh repair, at cost of...
WORKSHOP 12

COMPLICATIONS IN PELVIC ORGAN PROLAPSE AND STRESS URINARY INCONTINENCE MANAGEMENT: COMPLICATION OF CONCOMITANT URINARY INCONTINENCE TREATMENT

MATTEO BALZARRO M.D.
Dept. of Urology, A.O.U.I. Verona, Italy

Tuesday 12th September 2017

How many of you do Pelvic Organ Prolapse (POP) surgical treatments?

How many of you do Stress Urinary Incontinence (SUI) surgical treatments?

How many of you manage SUI & POP surgical treatment in the same operating session?

Affiliations to disclose*: None

Funding for speaker to attend:

- Self-funded

In this case, does she leak urine?

No

Occult SUI?

No

80% Yes

In this case, does she leak urine?

No

Occult SUI?

No

80% Yes

What to do?

Web links:

Evaluation of type of UI, and kind of UI prevalence

- If UUI is prevalent... treat first OAB, and then re-evaluate the situation
- Look for occult SUI
  - Reduce the POP during stress test and UD tests
- Patients with obstructed voiding due to POP may have wrong voiding attitudes (Valsalva maneuver)... 
  - Be sure that your patient does not strain to void the bladder

Before surgery
During surgery
After surgery

Prevention: before surgery

Valsalva maneuver
- Woman with POP and wrong voiding attitudes

<Valsalva maneuver>
- After POP repair and SUI correction
- Activation of MUS mechanism
Evaluation of patient’s goals (… and not surgeon’s goals!)  
Evaluation of your own surgical experience  
Evaluation of patient’s frailty… less is better in frailly patients!  
Counseling  
POP procedure and UI procedure  
warn women of increased risk of adverse events with combined surgery (compared to POP surgery alone)  
Correct therapy:  
Antibiotics  
Thromboprophylaxis (POP & UI treatment needs time…)  
Heparin  
Elastic stockings  
Suspension of anticoagulants/antiplatelet drugs before surgery

Share with anesthetist the type of anesthesia and the drugs  
The duration of detrusor dysfunction caused by neuraxial anesthesia (spinal/epidural) and analgesia is related to the dose/potency of local anesthetic and the use of long-acting neuraxial opioids  
Denervating the regional pelvic nerves for pain control also leads to denervation of the bladder for a transient period of time  
Local anesthetics in spinal bolus block both the afferent and efferent pathways of the voiding mechanism  
Addition of opioids to this bolus enhance bladder dysfunction (increased bladder capacity decreased detrusor contractility)

WHICH CAME FIRST?  
"THE CHICKEN - OR- THE CHICKEN EGG"  
"POP REPAIR - OR- IUS REPAIR"
WHICH COMES FIRST?

FIRST: POP REPAIR!

... and what could happen in the case you decided to first treat SUI and than the POP using a MESH?

Prevention: during surgery

Again....the rule is:

The first steps of your surgery must be POP and the last step SUI

❖ After POP treatment the perception of anatomic structures is different:

✓ Be careful... make double check on your passages
✓ In vaginal approach trocars passage may find less soft tissues, or a mesh when used
✓ If you have a doubt: step back in the procedure, and redo the passage (examples: introducer or trocar does not pass? go back to scissors and try to get a better way)

❖ MUS
✓ do not make a long single incision for anterior POP repair and MUS: tape can slip to bladder neck
✓ Limit the peri-urethral dissection to the level of the mid urethra, this will provide sufficient space for the tape preventing slipping or migration

❖ Burch procedure
✓ Not re-approximate anterior vaginal wall to Cooper’s ligament
✓ Leaving an ample “air knot” ensures a suspension of the juxtaurethral tissues without overcorrection

❖ Pubovaginal sling
✓ Fix the sling to peri-urethral fascia to prevent migration or slipping
✓ “Air knot” in the suspension sutures above the rectus fascia to ensure suspension without tension

❖ Bleeding:
✓ If severe bleeding during POP repair timing...
  ... revalue the scheduled UI procedure, or at least be very careful!!
✓ Attempt to control the vessel if possible, otherwise complete the procedure as quickly as possible
✓ Manage by tamponade, hemostatic agents, vaginal packing, embolization
Early intervention:

POUR – have exposed tape excision if exposed.

Treatments:

- Department of surgery
- Pain
- Timing of surgical management is debated:
  - Have the tunnel for trocars revalue.
  - Verona
  - Clean intermittent catheterization
  - Local topic
  - If urethral damage is done making the tunnel for trocars revalue.

Causes:

- Any associated complication would be regrettable.

Management:

- Consensus on consensus on consensus.
- No Italy
- Verona
- Italy
- Tissues reaction to synthetic materials
- Incorrect lithotomy positioning
- Intraoperative
- Nerve
- Verona
- Italy
- Avoid bladder over

What to do?

Management:

- Direct injury to bladder or urethra by trocar passage
  - Intraoperative urethral-cystoscopy to evaluate the damage.
  - What to do?
    - Remove and replace the trocar, and be sure not to be inside the bladder again!
    - Drain the bladder with an indwelling catheter, how long?
    - It depends from the extent of injury
    - Major injuries (rare) must be surgically repaired
  - If urethral damage is done making the tunnel for trocars revalue the scheduled UI procedure: The American Urological Association's recommendation is that "synthetic sling surgery is contraindicated in stress incontinent patients with intraoperative urethral injury."

POUR

- Transient retention 96-98%, recovery time is 4-6 weeks
- 2-4% pts have F-POUR > 4-6 weeks
- Treatments:
  - Clean intermittent catheterization
  - Tape stretching, tape incision, urethrolysis
- Timing of surgical management is debated:
  - It is reasonable to wait at least 4-6 weeks post surgery as most cases of retention will resolve spontaneously.
  - Early intervention:
    - Risk of over treatment.
    - Any associated complication would be regrettable.

POUR management

REMEmBER:

- No consensus has been achieved with regard to define female obstruction.
- There is no consensus on Post Void Residual (PVR) cut-off.
- There is no consensus on definition of female urinary retention... and it is almost reported in Literature as "voiding dysfunction."

But you still have the problem, so how to move?

Infection of the tape

- Management:
  - Local topic antibiotics --> systemic antibiotics --> exposed tape excision if remains problematic.

Exposure

- Management:
  - Local topic --> suture of the vaginal mucosa --> exposed tape excision if remains problematic.

Pain

- Causes:
  - Postoperative pain
  - Tissue reaction to synthetic materials
  - Management:
    - Pain medication --> imaging --> possible sling excision if remains problematic.

NO DIFFERENT MANAGEMENT WITH OR WITHOUT POP SURGERY
THANK YOU FOR YOUR ATTENTION

For any question please... say your name and country

WORKSHOP 12

COMPLICATIONS IN PELVIC ORGAN PROLAPSE AND STRESS URINARY INCONTINENCE MANAGEMENT

CLINICAL CASES

Tuesday 12th september 2017

Case 1

87 y.o. woman hospitalized for the fracture of the left tibia and fibula after a vehicle-to-pedestrian crash. A complete uterine prolapse, stage IV POP-Q system, was diagnosed and reduced by the placement of a flexible ring pessary (size 100mm).

- Worsening of serum creatinine from 0.91 to 1.38 mg/dl
- Abd. ultrasonography: severe HUN on the right side
- 3D CT scan: severe right HUN (worse than that shown in the previous CT scan taken a few days before). HUN was caused by the compression of distal ureter due to an oversized pessary

The pessary was replaced with a smaller one, resulting in the normalization of serum creatinine (0.78 mg/dl), and a following abdominal US documented the resolution of HUN.

Case 2

57 y.o. woman with symptomatic POP

Vaginal examination: anterior defects; uterus descensus; posterior vaginal wall defect associated to low anal descensus into sphincter/anal canal (Oxford grading IV). No SUI.
UD tests (non reported if with POP reduction or not):

- No OAB
- No SUI
- Micturition obtained by the only use of abdominal strength: Pdet/Qmax was 6/10
- Bladder sensations: non reported

What to do?

Performed surgery:

- Transvaginal hysterectomy, McCall suspension, anterior vaginal wall colporrhaphy, and Kelly plication
- No surgery for the posterior compartment was performed

Case 2

The patient developed POUR:

- Very low bladder sensation... (like before the surgery)
- PVR 500/500
- The attempt to void was characterized by Valsalva maneuver...
  "compared to before the surgery I can not urinate"

What to do?

The patient had a Foley catheter (IC) for 3 weeks, she had 3 attempts of removal all with urine residual > 450 ml

Options proposed were:

- Indwelling catheter/CIC
- ... wait and see

What to do?

The patient decided for a second opinion...

- New UD testing:
  - No bladder sensations
  - No OAB
  - CC > 500 ml
  - No micturition, several Valsalva maneuver, no Pdet
  - PVR 250/250ml – 350/350ml – 450-450ml

Options proposed were:

- CIC and gain urinary continence
- Urethrolysis with the risk of SUI

Patient had a very careful counseling and decided for urethrolysis
("no more CIC, I can't live in this way!!")

Case 2

Urethrolysis was performed and the patient was able to start again to empty the bladder by straining... No SUI

She is now disturbed by the posterior compartment POP and she is going to have a rectopexy...