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

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

Start	End	Topic	Speakers
11:00	11:05	Introduction	Vincenzo Li Marzi
11:05	11:25	Conservative and Abdominal Surgical POP Treatment Complications	Maurizio Serati
11:25	11:45	Vaginal Surgical POP Treatment Complications	Frank Van Der Aa
11:45	12:05	Complications of Concomitant Urinary Incontinence Treatment	Matteo Balzarro
12:05	12:25	Discussion and Share of Cases With Audience	All
12:25	12:30	Closing Remarks and Take Home Message	Matteo Balzarro

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 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.
2. Management 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/Basic
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

1. An International Urogynecological Association (IUGA)/International Continence Society (ICS) joint report on the terminology for female pelvic organ prolapse (POP).
   Haylen BT1, Maher CF2, Barber MD3, Camargo S4, Dandolu V5, Digesu A6, Goldman HB3, Huser M7, Milani AL8, Moran PA9, Schaer GN10, Withagen MI11.
   Int Urogynecol J. 2016 Apr;27(4):655-84. doi: 10.1007/s00192-016-3003-y.

2. Frailty and the role of obliterative versus reconstructive surgery for pelvic organ prolapse; a national study.
   Suskind AM1, Jin C2, Walter LC3, Finlayson E4.
   J Urol. 2016 Dec 6. pii: S0022-5347(16)31894-8. doi: 10.1016/j.juro.2016.12.001. [Epub ahead of print]

3. Use of Concomitant Stress Incontinence Surgery at Time of Pelvic Organ Prolapse Surgery since Release of the 2011 FDA Health Notification on Serious Complications Associated with Transvaginal Mesh.
   Drain A1, Khan A1, Ohmann EL1, Brucker BM1, Smilen S1, Rosenblum N1, Nitti VW1.J Urol. 2016 Nov 17. pii: S0022-5347(16)31791-8. doi: 10.1016/j.juro.2016.11.087. [Epub ahead of print]
   Eur J Obstet Gynecol Reprod Biol. 2016 Nov;206:181-183. doi: 10.1016/j.ejogrb.2016.09.025. Epub 2016 Sep 30.

4. Should we use a vaginal pack to reduce blood loss at the time of prolapse surgery?
Subramanya J1, Curtiss N1, Balachandran A1, Duckett J2.t]
Eur J Obstet Gynecol Reprod Biol. 2016 Nov;206:181-183. doi: 10.1016/j.ejogrb.2016.09.025. Epub 2016 Sep 30.

5. Sacrocolpopexy: Surgical Technique, Outcomes, and Complications.
Takacs EB1, Kreder KJ2.
Curr Urol Rep. 2016 Dec;17(12):90.

6. Minimally Invasive Sacrocolpopexy: How to Avoid Short- and Long-Term Complications.
Matthews CA1.
Curr Urol Rep. 2016 Nov;17(11):81.

7. Uterine preservation for advanced pelvic organ prolapse repair: Anatomical results and patient satisfaction.
Fink K1, Shachar IB1,2, Braun NM1,2.
Int Braz J Urol. 2016 Jul-Aug;42(4):773-8. doi: 10.1590/S1677-5538.IBJU.2015.0656.

8. Transvaginal mesh: a historical review and update of the current state of affairs in the United States.
Iyer S1, Botros SM2.
Int Urogynecol J. 2016 Aug 22. [Epub ahead of print]

9. Vaginal Mesh Exposure Presentation, Evaluation, and Management.
Zambon JP1, Badlani GH2.
Curr Urol Rep. 2016 Sep;17(9):65. doi: 10.1007/s11934-016-0617-z.

10. Safety considerations for synthetic sling surgery.
Blaivas JG1, Purohit RS1, Benedon MS2, Mekel G3, Stern M4, Billah M4, Olugbade K5, Bendavid R6, Iakovlev V7.
Nat Rev Urol. 2015 Sep;12(9):481-509. doi: 10.1038/nrurol.2015.183. Epub 2015 Aug 18.

11. Consensus Statement of the European Urology Association and the European Urogynaecological Association on the Use of Implanted Materials for Treating Pelvic Organ Prolapse and Stress Urinary Incontinence.
Chapple CR(1), Cruz F(2), Deffieux X(3), Milani AL(4), Arlandis S(5), Artibani W(6), Bauer RM(7), Burkhard F(8), Cardozo L(9), Castro-Diaz D(10), Cornu JN(11), Deprest J(12), Gunnemann A(13), Gyhagen M(14), Heesakkers J(15), Koelbl H(16), MacNeil S(17), Naumann G(18), Roovers JWR(19), Salvatore S(20), Sievert KD(21), Tarcan T(22), Van der Aa F(23), Montorsi F(24), Wirth M(25), Abdel-Fattah M(26).
Eur Urol. 2017 Apr 13. pii: S0302-2838(17)30279-8. doi: 10.1016/j.eururo.2017.03.048. [Epub ahead of print]

Abstracts

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 is 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, urodynamic 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.

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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

ICS 2017 FLORENCE

Vincenzo Li Marzi

Affiliations to disclose†:

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

† All financial ties (over the last year) that you may have with any business organisation with respect to the subjects mentioned during your presentation

Funding for speaker to attend:

- [X] Self-funded
- [ ] Institution (non-industry) funded
- [ ] Sponsored by:

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Frank Van Der Aa

Affiliations to disclose†:

Cook Myosite	**Coloplast**	**Astellas**	**Allergan**
Trial participation	Trial participation	Speaker Honorarium	Consultant
Boston Scientific	Other: Proctor	Trial participation	Trial participation
Other: Proctor	**Ferring**	Fellowship, travel grants	Research grant
Trial participation	Consultant	Research grant	**Medtronic**
	Axonics		Consultant
			Research grant

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Maurizio Serati

Affiliations to disclose†:

Astellas
Speaker Honorarium
Pfizer - Pierre Fabre
Speaker Honorarium

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- [x] Sponsored by: Pierre Fabre

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Matteo Balzarro

Affiliations to disclose†:

none

Funding for speaker to attend:

- [ ] Self-funded
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- [x] Sponsored by: Wellspect

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

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12:25	12:30	Closing Remarks and Take Home Message	Matteo Balzarro

Workshop # 12: **Advanced**

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

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

- 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.
- 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.

Dr. Vincenzo Li Marzi- Department of Urology – Firenze- Italy

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

WORKSHOP 12

TUESDAY 12TH SEPTEMBER 2017

11:00 - 12:30

SPADOLINI D
Capacity: 200

SPEAKERS

VINCENZO LI MARZI
WORKSHOP CHAIR

MAURIZIO SERATI
WORKSHOP SPEAKER

MATTEO BALZARRO
WORKSHOP SPEAKER

FRANK VAN DER AA
WORKSHOP SPEAKER

Dr. Vincenzo Li Marzi- Department of Urology – Firenze- Italy

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Complications in Pelvic Organ Prolapse and Stress Urinary Incontinence Management

Conservative and Abdominal Surgical POP Treatment Complications

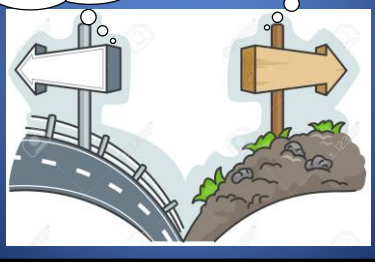
MAURIZIO SERATI

Associate Professor - Urogynecology – University of Insubria - Varese

Conservative and Abdominal Surgical POP Treatment Complications

Conservative treatment

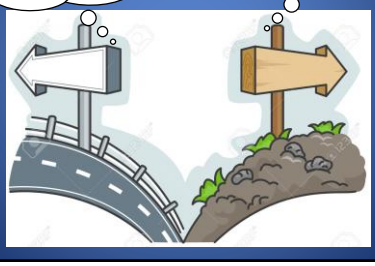
Abdominal surgery



Conservative and Abdominal Surgical POP Treatment Complications

Pessary

open\LPS\robotic



Conservative and Abdominal Surgical POP Treatment Complications

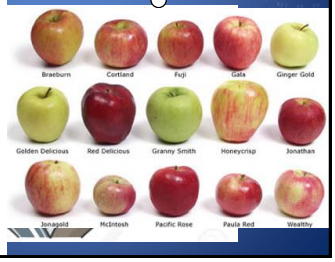
Pessary

open\LPS\robotic

Conservative and Abdominal Surgical POP Treatment Complications

Pessary

open\LPS\robotic



Conservative and Abdominal Surgical POP Treatment Complications

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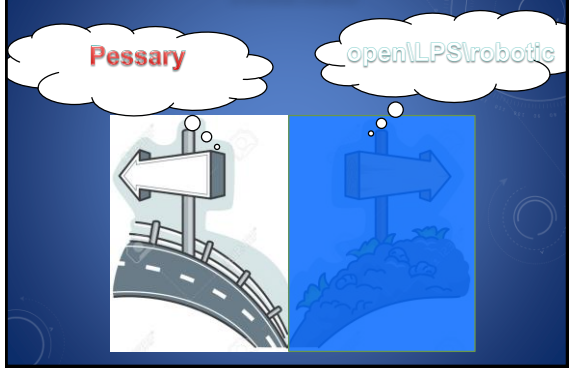
based

Conservative and Abdominal Surgical POP Treatment Complications



CONSERVATIVE TREATMENT: PESSARY

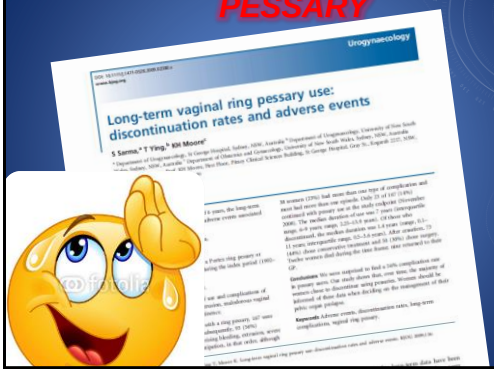
- Introduced since 15th century BC
- More than 120 types available
- About 20 commonly used

CONSERVATIVE TREATMENT: PESSARY

HOWEVER

- few long-term data

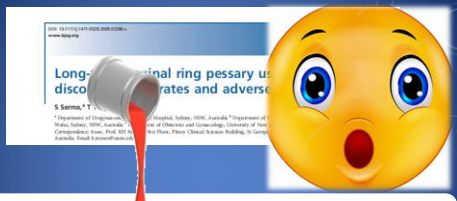
CONSERVATIVE TREATMENT: PESSARY



PESSARY

- At least 6 yr
- 273 women
- lenght 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

Urogynaecology

Long-term vaginal ring pessary use: discontinuation rates and adverse events

S Sarma,[a] T Ying,[b] KH Moore[c]

Table 2. Complications of vaginal pessaries

	n (%)
Bleeding	44 (46.8)
Extrusion	26 (27.6)
Vaginal discharge	24 (25.5)
Pain/constipation	24 (25.5)
Incontinence	3 (3.19)
Theatre for removal	2 (1.19)

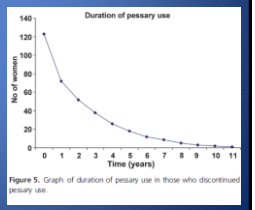


Figure 5. Graph of duration of pessary use in those who discontinued pessary use.

PESSARY

Urogynaecology

Long-term vaginal ring pessary use: discontinuation rates and adverse events

S Sarma,[a] T Ying,[b] KH Moore[c]

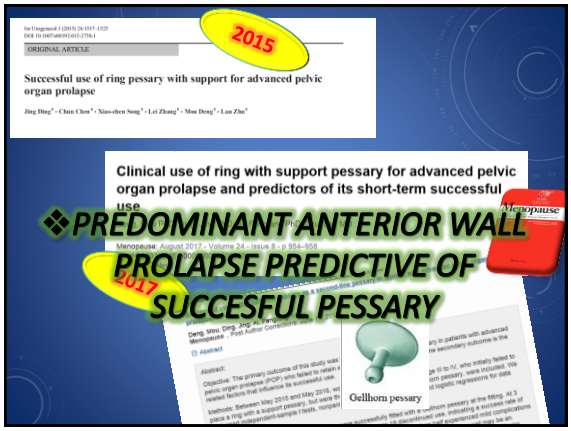
- *Not possible to predict in advance women that will present complications*

CONSERVATIVE TREATMENT: PESSARY

Prevention:	Not possible
Diagnosis:	Observation and examination
Treatment:	Removal

CONSERVATIVE TREATMENT: PESSARY

Prevention:	Not possible
Diagnosis:	Observation and examination
Treatment:	Removal



- *PREDOMINANT ANTERIOR WALL PROLAPSE PREDICTIVE OF SUCCESFUL PESSARY*

CONSERVATIVE TREATMENT: PESSARY

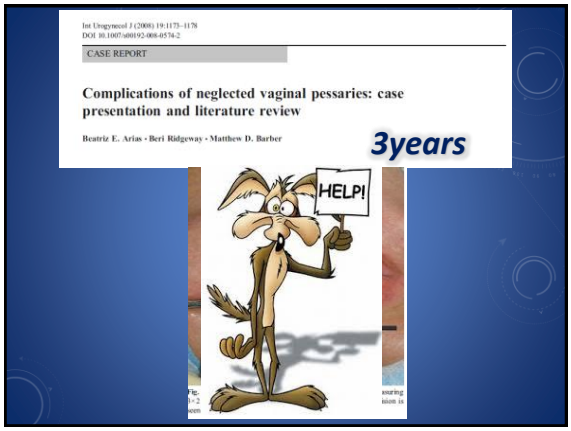
Prevention:	Sometimes possible
Diagnosis:	Observation and examination
Treatment:	Removal

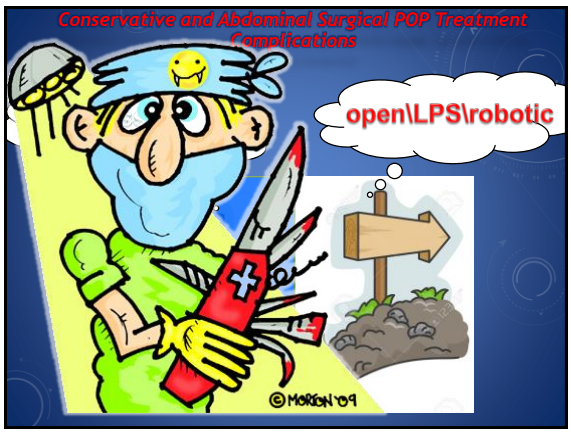
CONSERVATIVE TREATMENT: PESSARY

Prevention: Sometimes possible

Diagnosis: Observation and examination

Treatment: Removal





Abdominal Surgical POP Treatment Complications

Me nal
sacr organ
prolapse repair

Abdominal Surgical POP Treatment Complications

Classifications

Neurourology and Urodynamics 30:2–12 (2011)

An International Urogynecological Association (IUGA)/ International Continence Society (ICS) Joint Terminology and Classification of the Complications Related Directly to the Insertion of Prostheses (Meshes, Implants, Tapes) and Grafts in Female Pelvic Floor Surgery

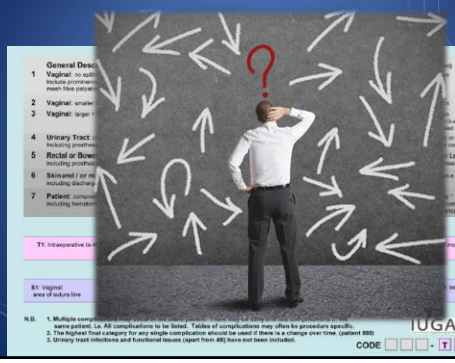
Bernard T. Haylen,[1]* Robert M. Freeman,[2] Steven E. Swift,[3] Michel Cosson,[4] G. Willy Davila,[5] Jan Deprest,[6] Peter L. Dwyer,[7] Brigitte Fatton,[8] Erwin Kocjancic,[9] Joseph Lee,[10] Chris Maher,[11] Eckhard Petri,[12] Dina E. Rizk,[13] Peter K. Sand,[14] Gabriel N. Schaer,[15] and Ralph Webb[16]

Abdominal Surgical POP Treatment Complications

Classifications

TERMS USED	DEFINITION
PROSTHESIS	A fabricated substitute to assist a damaged body part or to augment or stabilize a hypoplastic structure
A: Mesh	A (prosthetic) network fabric or structure
B: Implant	A surgically inserted or embedded prosthesis
C: Tape (Sling)	A flat strip of synthetic material
GRAFT	Any tissue or organ for transplantation. This term will refer to biological materials inserted
A: Autologous Grafts	From the woman's own tissues e.g. dura mater, rectus sheath or fascia lata
B: Allografts	From post-mortem tissue banks
C: Xenografts	From other species e.g. modified porcine dermis, porcine small intestine, bovine pericardium
COMPLICATION	A morbid process or event that occurs during the course of a surgery that is not a n essential part of that surgery
CONTRACTION	Shrinkage or reduction in size
PROMINENCE	Parts that protrude beyond the surface (e.g. due to wrinkling or folding with no epithelial separation)
SEPARATION	Physically disconnected (e.g. vaginal epithelium)
EXPOSURE	A condition of displaying, revealing, exhibiting or making accessible e.g. vaginal mesh visualized through separated vaginal epith elium
EXTRUSION	Passage gradually out of a body structure or tissue
COMPROMISE	Bring into danger
PERFORATION	Abnormal opening into a hollow organ or viscus
DEHISCENCE	A bursting open or gaping along natural or sutured line

Abdominal Surgical POP Treatment Complications



IUGA ICS

CODE . T . S

Abdominal Surgical POP Treatment Complications

…size of the problem…

Abdominal POP Complications

SGS Papers

Perioperative adverse events after minimally invasive abdominal sacrocolpopexy

2014

TABLE 3
Peri- and postoperative adverse events for LSC vs RSC without concomitant rectopexy

Variable	All women (n = 370)	LSC (n = 249)	RSC (n = 121)	Odds ratio (95% confidence interval)[a]	P value
Conversion to open abdominal	1.9 (0.9–3.9)	2.0 (0.9–4.6)	1.7 (0.5–5.8)	0.5 (0.1–1.5)	.81
Bladder injury	1.2 (0.5–2.9)	0.4 (0.07–2.2)	3.3 (1.3–8.2)	0.1 (0.02–0.93)	.04[b]
Ureteral injury	0	0	0	—	—
Bowel injury	1.6 (0.7–3.5)	1.2 (0.4–3.5)	2.5 (0.8–7.0)	0.55 (0.1–2.8)	.36
Vascular injury	0.7 (0.3–2.1)	0.8 (0.2–2.9)	0.8 (0.1–4.5)	1.1 (0.1–12.4)	.98
Estimated blood loss >500 mL	1.0 (0.4–2.5)	0	2.5 (0.8–7.0)	0.2 (0.02–0.81)	.01[b]
Wound infection	3.7 (2.3–6.0)	2.8 (1.4–5.7)	4.1 (1.7–9.3)	0.8 (0.3–2.4)	.50
Hematoma	0.7 (0.3–2.1)	1.2 (0.4–3.5)	0	—	.23
Transfusion	0.5 (0.1–1.8)	0.4 (0.07–2.2)	0	0.6 (0.03–8.9)	.49
Pelvic abscess	0.8 (0.3–2.4)	0.8 (0.2–2.9)	0.8 (0.1–4.5)	1.4 (0.3–7.3)	.98
Osteomyelitis	0	0	0	—	—
Deep vein thrombosis/pulmonary embolus	0.5 (0.1–1.8)	0.8 (0.2–2.9)	0	—	.32
Ileus	0.5 (0.1–1.8)	0.8 (0.2–2.9)	0	—	.32
Bowel obstruction	0.8 (0.3–2.4)	0.4 (0.07–2.2)	1.7 (0.5–5.8)	0.6 (0.08–4.0)	.21
Neurologic injury	3.5 (2.1–5.9)	3.6 (1.9–6.7)	3.3 (1.3–8.2)	1.3 (0.4–4.2)	.88
Pulmonary	1.6 (0.7–3.5)	1.6 (0.6–4.1)	1.7 (0.5–5.8)	0.7 (0.2–3.3)	.97
Cardiac	0.8 (0.3–2.4)	0.8 (0.2–2.9)	0.8 (0.1–4.5)	0.8 (0.1–5.0)	.98
Mesh erosion	2.7 (1.5–4.9)	2.4 (1.1–5.2)	3.3 (1.3–8.2)	0.3 (0.06–1.8)	.62

Abdominal POP Complications

Reviews

Complication and Reoperation Rates After Apical Vaginal Prolapse Surgical Repair

A Systematic Review

Gouri R. Diwadkar, MD, Matthew D. Barber, MD, MSCI, Benjamin Christopher Maher, MD, and J. Eric Jelovsek, MD

2009

Table 2. Weighted Averages and Confidence Intervals of Complications, Dindo Grades, Prolapse Reoperation Rates, and Total Reoperation Rates

	Traditional Vaginal Repair*	Sacral Colpopexy	Mesh Kits
Number of studies†	48	52	24
Number of patients	7,827	5,639	3,425
Mean follow-up (mo±SD)	32.6±19.8	26.5±20.1	17.1±13.8
Dindo grade I	6.2 (5.7–6.7), 0–52.8	5.5 (4.9–6.1), 0–52.2	3.9 (3.3–4.6), 0–23.1
Dindo grade II	6.9 (6.4–7.6), 0–34.7	5.8 (5.2–6.4), 0–25.9	2.2 (1.7–2.7), 0–14.8
Dindo grade IIIa	0.2 (0.1–0.4), 0–2.1	1.0 (0.7–1.2), 0–8.3	1.3 (0.9–1.6), 0–12.7
Dindo grade IIIb	1.9 (1.7–2.3), 0–12.0	4.8 (4.2–5.4), 0–28.2	7.2 (6.3–8.0), 0–21.2
Dindo grade IVa, b	0.1 (0–0.1), 0–1.0	0.0 (0–0.07), 0.0	0.0 (0–0.1), 0.0
Dindo grade V	0.1 (0–0.1), 0–0.7	0.0 (0–0.07), 0.0	0.0 (0–0.1), 0.0
Mesh erosion or infection	0.5 (0.3–0.6), 0–20.0	2.2 (1.8–2.6), 0–28.2	5.8 (5–6.6), 0–21.2
Visceral injury‡	1.0 (0.8–1.3), 0–5.9	1.7 (1.3–2.0), 0–10.7	1.1 (0.7–1.4), 0–5.0
Cystotomy	0.4 (0.2–0.5), 0–5.9	1.0 (0.8–1.3), 0–10.7	0.7 (0.4–1.0), 0–4.3
Ureteral injury	0.3 (0.2–0.4), 0–3.5	0.2 (0.1–0.3), 0–1.6	0.1 (0–0.1), 0–1.0
Bowel injury	0.4 (0.3–0.5), 0–3.1	0.5 (0.3–0.7), 0–3.6	0.3 (0.1–0.5), 0–5.0
Pain§	1.6 (1.3–1.9), 0–38.9	2.3 (1.9–2.6), 0–25.0	2.5 (2.0–3.0), 0–23.1
Buttock pain	1.0 (0.8–1.3), 0–52.8	0.0 (0–0.07), 0–5.9	0.4 (0.2–0.7), 0–8.3
Dyspareunia	1.5 (1.2–1.8), 0–38.9	1.5 (1.1–1.8), 0–22.8	2.2 (1.7–2.7), 0–23.1
Fistula	0.1 (0–0.1), 0–1.5	0.0 (0–0.07), 0–0.8	0.2 (0.1–0.4), 0–4.2
Hemorrhage or hematoma	2.8 (2.5–3.3), 0–19.6	1.6 (1.3–1.9), 0–11.5	1.1 (0.7–1.4), 0–3.0
Wound complications‖	0.5 (0.4–0.7), 0–10.8	1.5 (1.2–1.8), 0–16.8	0.2 (0–0.3), 0–7.5
Pelvic abscess	0.2 (0.1–0.3), 0–1.4	0.1 (0–0.2), 0–3.2	0.1 (0–0.2), 0–3.3
Lower extremity neuropathy	0.4 (0.3–0.6), 0–7.5	0.2 (0.1–0.3), 0–0.5	0.0 (0–0.1), 0.0
Urinary tract infection	3.5 (3.1–3.9), 0–34.8	2.1 (1.8–2.5), 0–25.9	0.8 (0.5–1.2), 0–14.8
Pulmonary embolism or deep vein thrombosis	0.1 (0.1–0.2), 0–2.2	0.3 (0.1–0.4), 0–3.2	0.0 (0–0.1), 0–1.4
Pulmonary complications	0.5 (0.4–0.7), 0–14.0	0.1 (0.1–0.4), 0–0.7	0.0 (0–0.1), 0.0
Cardiac complications	0.2 (0.1–0.3), 0–2.2	0.2 (0.1–0.3), 0–3.3	0.0 (0–0.1), 0.0

Abdominal Surgical POP Treatment Complications

Abdominal POP Complications

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Perioperative adverse events after minimally invasive abdominal sacrocolpopexy

Cecile A. Unger, MD, MPH; Marie Fidela R. Paraiso, MD; John L. Gahan, Matthew D. Barber, MD, MSCI; Bert Ridgeway, MD

2014

TABLE 2

Peri- and postoperative adverse events for LSC vs RSC without concomitant rectopexy

Variable	All women (n = 370)	LSC (n = 249)	RSC (n = 121)	Odds ratio (95% confidence interval)*	P value
Conversion to open abdominal	1.9 (0.9–3.9)	2.0 (0.9–4.6)	1.7 (0.5–5.8)	0.5 (0.1–1.5)	.81
Bladder injury	1.2 (0.5–2.9)	0.4 (0.07–2.2)	3.3 (1.3–8.2)	0.1 (0.02–0.93)	.04†
Ureteral injury	0	0	0	—	—
Bowel injury	1.6 (0.7–3.5)	1.2 (0.4–3.5)	2.5 (0.8–7.0)	0.55 (0.1–2.8)	.36
Vascular injury	0.7 (0.3–2.1)	0.8 (0.2–2.9)	0.8 (0.1–4.5)	1.1 (0.1–12.4)	.98
Estimated blood loss >500 mL	1.0 (0.4–2.5)	0	2.5 (0.8–7.0)	0.2 (0.02–0.81)	.01†
Wound infection	3.7 (2.3–6.0)	2.8 (1.4–5.7)	4.1 (1.7–9.3)	0.6 (0.3–2.4)	.50
Hematoma	0.7 (0.3–2.1)	1.2 (0.4–3.5)	0	—	.23
Transfusion	0.5 (0.1–1.8)	0.4 (0.07–2.2)	0	0.6 (0.03–8.9)	.49
Pelvic abscess	0.8 (0.3–2.4)	0.8 (0.2–2.9)	0.8 (0.1–4.5)	1.4 (0.3–7.3)	.98
Osteomyelitis	0	0	0	—	—
Deep vein thrombosis/pulmonary embolus	0.5 (0.1–1.8)	0.8 (0.2–2.9)	0	—	.32
Ileus	0.5 (0.1–1.8)	0.8 (0.2–2.9)	0	—	.32
Bowel obstruction	0.8 (0.3–2.4)	0.4 (0.07–2.2)	1.7 (0.5–5.8)	0.6 (0.08–4.0)	.21
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Abdominal POP Complications

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Perioperative adverse events after minimally invasive abdominal sacrocolpopexy

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Bowel injury	1.6 (0.7–3.5)	1.2 (0.4–3.5)	2.5 (0.8–7.0)	0.55 (0.1–2.8)	.36
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Mesh erosion	2.7 (1.5–4.9)	2.4 (1.1–5.2)	3.3 (1.3–8.2)	0.3 (0.06–1.8)	.62
Clavien-Dindo Grading System grade 3‖	26.3 (22.0–31.0)	26.4 (21.3–32.3)	26.1 (19.0–34.6)	1.0 (0.6–1.5)	.81

Data evaluated for relative differences and presented as % (95% confidence interval).

LSC conventional laparoscopic sacrocolpopexy; *RSC* robotic-assisted laparoscopic sacrocolpopexy.

* Unadjusted odds ratio. † Statistically significant difference at $\alpha = .05$. ‡ Requires surgical, endoscopic, or radiologic imaging/intervention (with or without anesthesia).

Abdominal POP Complications

Reviews

Complication and Reoperation Rates After Apical Vaginal Prolapse Surgical Repair

A Systematic Review

2009

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Dindo grade II	6.9 (6.4–7.6), 0–34.7	5.8 (5.2–6.4), 0–25.9	2.2 (1.7–2.7), 0–14.8
Dindo grade IIIa	0.2 (0.1–0.4), 0–2.1	1.0 (0.7–1.2), 0–8.3	1.3 (0.9–1.6), 0–12.7
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Dindo grade IVa, b	0.1 (0–0.1), 0–1.0	0.0 (0–0.07), 0.0	0.0 (0–0.1), 0.0
Dindo grade V	0.1 (0–0.1), 0–0.7	0.0 (0–0.07), 0.0	0.0 (0–0.1), 0.0
Mesh erosion or infection	0.5 (0.3–0.6), 0–20.0	2.2 (1.8–2.6), 0–28.2	5.8 (5–6.6), 0–21.2
Visceral injury‡	1.0 (0.8–1.3), 0–5.9	1.7 (1.3–2.0), 0–10.7	1.1 (0.7–1.4), 0–5.0
Cystotomy	0.4 (0.2–0.5), 0–5.9	1.0 (0.8–1.3), 0–10.7	0.7 (0.4–1.0), 0–4.3
Ureteral injury	0.3 (0.2–0.4), 0–3.5	0.2 (0.1–0.3), 0–1.6	0.1 (0–0.1), 0–1.0
Bowel injury	0.4 (0.3–0.5), 0–3.1	0.5 (0.3–0.7), 0–3.6	0.3 (0.1–0.5), 0–5.0
Pain§	1.6 (1.3–1.9), 0–38.9	2.3 (1.9–2.6), 0–25.0	2.5 (2.0–3.0), 0–23.1
Buttock pain	1.0 (0.8–1.3), 0–52.8	0.0 (0–0.07), 0–5.9	0.4 (0.2–0.7), 0–8.3
Dyspareunia	1.5 (1.2–1.8), 0–38.9	1.5 (1.1–1.8), 0–22.8	2.2 (1.7–2.7), 0–23.1
Fistula	0.1 (0–0.1), 0–1.5	0.0 (0–0.07), 0–0.8	0.2 (0.1–0.4), 0–4.2
Hemorrhage or hematoma	2.8 (2.5–3.3), 0–19.6	1.6 (1.3–1.9), 0–11.5	1.1 (0.7–1.4), 0–3.0
Wound complications‖	0.5 (0.4–0.7), 0–10.8	1.5 (1.2–1.8), 0–16.8	0.2 (0–0.3), 0–7.5
Pelvic abscess	0.2 (0.1–0.3), 0–1.4	0.1 (0–0.2), 0–3.2	0.1 (0–0.2), 0–3.3
Lower extremity neuropathy	0.4 (0.3–0.6), 0–7.5	0.2 (0.1–0.3), 0–0.5	0.0 (0–0.1), 0.0
Urinary tract infection	3.5 (3.1–3.9), 0–34.8	2.1 (1.8–2.5), 0–25.9	0.8 (0.5–1.2), 0–14.8
Pulmonary embolism or deep vein thrombosis	0.1 (0.1–0.2), 0–2.2	0.3 (0.1–0.4), 0–3.2	0.0 (0–0.1), 0–1.4
Pulmonary complications	0.5 (0.4–0.7), 0–14.0	0.1 (0.1–0.4), 0–0.7	0.0 (0–0.1), 0.0
Cardiac complications	0.2 (0.1–0.3), 0–2.2	0.2 (0.1–0.3), 0–3.3	0.0 (0–0.1), 0.0
Total complication rate	15.3 (14.7–16.3), 0–52.8	17.1 (16.1–18.1), 0–52.2	14.5 (13.2–15.7), 0–23.1
Reoperation for prolapse recurrence	3.9 (3.5–4.6), 0–29.1	2.3 (1.9–2.7), 0–31.3	1.3 (1.0–1.7), 0–16.0
Total reoperation rate¶	5.8 (5.3–6.5), 0–29.2	7.1 (6.4–7.8), 0–28.2	8.5 (7.6–9.4), 0–30.0

Abdominal Surgical POP Treatment Complications

Author/ Publication year	Type of study	Number Patients/ Procedure or mesh type	Cure rate (%)/follow-up	Complications		
				Intraoperative (surgeon related)	Mesh related	Others
Geller EJ [30] 2011	PS	28/ robotic sacrocolpopexy	100 / 14.8 month	Nil	Exposure 7.14%	Nil
Morano SJ [31] 2011	PS	31/ robotic sacrocolpopexy	100 / 24.5 month	Conversion 3.2%	Nil	Myocardial infarct, reoperation for tension, wound infection & ileus 3.2% each
Maher CF [32] 2011	RCT	108/ laparoscopic sacrocolpopexy vs. total vaginal mesh (Lap- 53, Vaginal- 55)	77- lap, 43- vaginal / 2 year	1cystotomy & bowel injury each (lap); 1 BT in each group	Erosion- 2% (lap), 13% (vaginal); contracture 7% (vaginal);	Trocar hernia 1 (lap); UTI- 2(lap), 3(vaginal); Lap better.
Sergent F [33] 2011	PS	119/ Lap sacrocolpopexy with Parietex	94.8 / 34 month	Conversion- 4%; Blood transfusion 0.8%, bladder injury 2.4%; rectal injury 1.6%; retention 8.8%; Rectovesical fistula 0.8%	Erosion 3.4%; pelvic pain 0.8%; vaginal pain 0.8%	Lumbosacral spondylodiscitis 0.8%
Xylinas EX [34] 2010	PS	12; robotic assisted sacrocolpopexy	100 / 19.1 month	Nil	Nil	Nil
Wong MTC [35] 2011	RCT	Lap (40) vs. robotic rectopexy (23) for rectocele	NS	Conversion- 7.9%	Nil	UTI 4.7%; Ileus 3.2%; outcome similar in both group
Onol FF [36] 2011	RS	36; extraperitoneal sacrocolpopexy with titanium coated mesh.	91 / 29 month	Bladder injury 17%; ureteric injury 3%	Erosion/ exposure- nil	Hernia 3%; DVT 3%.
Wang Y [37] 2011	RS	93; POP/ Lap sacrospinous ligament fixation	93.5 / 18 month	Bladder injury 4.3%, blood transfusion nil.	Erosion- nil; pain 1.1%; Dyspareunia-0	Denovo urgency 6.5%
Overall		376 patients	77 to 100% at 18 to 34 month follow-up	Bladder injury 0-17%; conversion	Erosion 0-7.14%, pain, dyspareunia 0-1.1%	

RCT- randomized control trial, PS- prospective study, RS- retrospective study, Lap- laparoscopic

Abdominal Surgical POP Treatment Complications

EROSION

EXPOSURE

EXTRUSION

PERFORATION

Abdominal Surgical POP Treatment Complications

EROSION

RECENT articles: 0-7.2%

Abdominal Surgical POP Treatment Complications

EROSION: risk factors

BJUI
BJU International

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

Tuo Deng, Banghua Liao, Deyi Luo, Hong Shen and Kunjie Wang

Department of Urology, West China Hospital, Sichuan University, Chengdu, Sichuan Province, China

2016

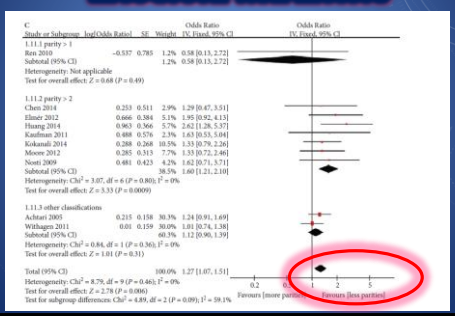
Abdominal Surgical POP Treatment Complications

EROSION: risk factors

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

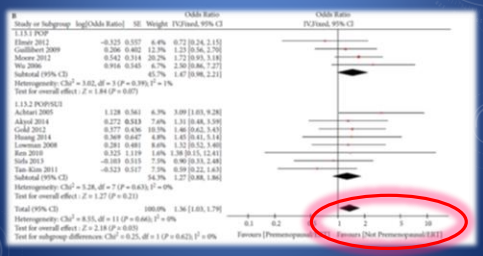
Abdominal Surgical POP Treatment Complications

EROSION: risk factors



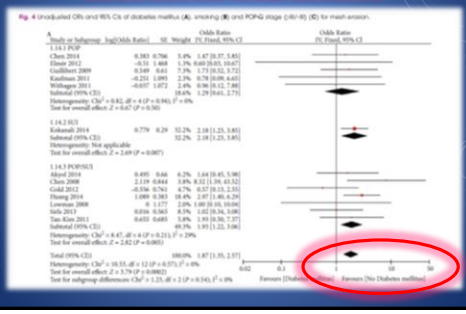
Abdominal Surgical POP Treatment Complications

EROSION: risk factors



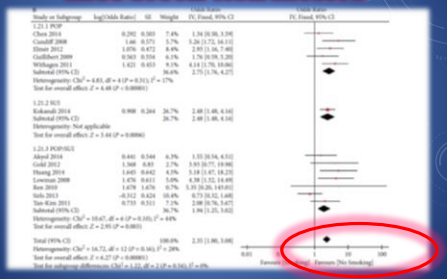
Abdominal Surgical POP Treatment Complications

EROSION: risk factors



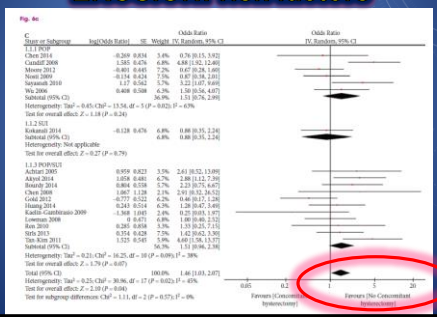
Abdominal Surgical POP Treatment Complications

EROSION: risk factors



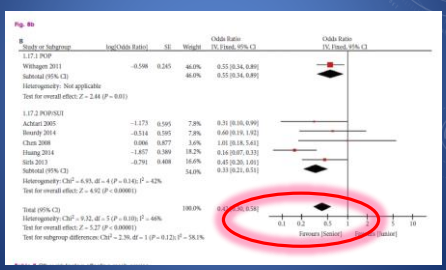
Abdominal Surgical POP Treatment Complications

EROSION: risk factors



Abdominal Surgical POP Treatment Complications

EROSION: risk factors



Abdominal Surgical POP Treatment Complications

EROSION: symptoms

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

Indian J Urol

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 location of the extrusion, its magnitude and severity and associated recurrence of SUI and/or urinary retention [Tables 14–16].[108–148]

Abdominal Surgical POP Treatment Complications

EROSION: conservative treatment

Indian J Urol

Management of …e /vaginal extr…

In all the ca… …posure, it would be pragma… urethra or … …cystoscopy.

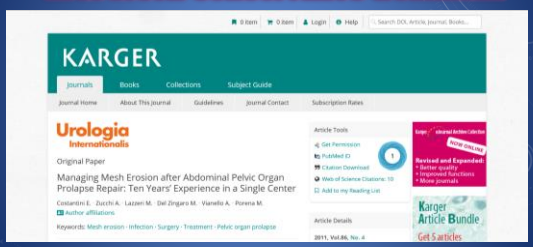
Conservative management It should be initially att… exposure. Patient is advised to abstain from intercou… might allow a layer of … tissue to grow and c… this may be helpful in 0–100% cases [Table 14].

Vaginal approach It is … preferred approach … anesthesia in order to have adequate exploration of m…

Partial removal of mesh The extruded part of the m… carefully examined for signs of infection. The vagina … using absorbable sutures [Figure 3].

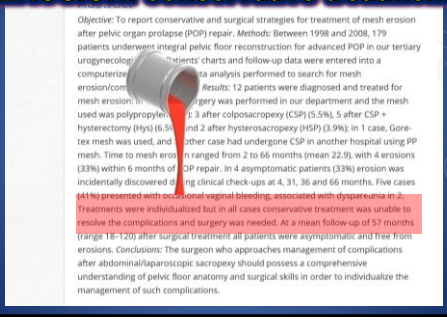
Abdominal Surgical POP Treatment Complications

EROSION: conservative treatment



Abdominal Surgical POP Treatment Complications

EROSION: conservative treatment



Objective: To report conservative and surgical strategies for treatment of mesh erosion after pelvic organ prolapse (POP) repair. *Methods:* Between 1998 and 2008, 179 patients underwent integral pelvic floor reconstruction for advanced POP in our tertiary urogynecolog… patients' charts and follow-up data were entered into a computerize… …ta analysis performed to search for mesh erosion/com… *Results:* 12 patients were diagnosed and treated for mesh erosion: … …rgery was performed in our department and the mesh used was polypropyle… …: 3 after colposacropexy (CSP) (5.5%), 5 after CSP + hysterectomy (Hys) (6.5… …nd 2 after hysterosacropexy (HSP) (3.9%); in 1 case, Gore-tex mesh was used, and … other case had undergone CSP in another hospital using PP mesh. Time to mesh eros… …n ranged from 2 to 66 months (mean 22.9), with 4 erosions (33%) within 6 months of … OP repair. In 4 asymptomatic patients (33%) erosion was incidentally discovered d… …g clinical check-ups at 4, 31, 36 and 66 months. Five cases (41%) presented with occasional vaginal bleeding, associated with dyspareunia in 2. Treatments were individualized but in all cases conservative treatment was unable to resolve the complications and surgery was needed. At a mean follow-up of 57 months (range 18–120) after surgical treatment all patients were asymptomatic and free from erosions. *Conclusions:* The surgeon who approaches management of complications after abdominal/laparoscopic sacropexy should possess a comprehensive understanding of pelvic floor anatomy and surgical skills in order to individualize the management of such complications.

Abdominal Surgical POP Treatment Complications

EROSION: treatment

…therefore….

Abdominal Surgical POP Treatment Complications

EROSION: …

Int Urogynecol J (2015) 26:1545–1546
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VIDEO

Rectal perforation at the time of vaginal mesh placement and subsequent abdominal mesh removal

Patrick Lang¹ · Sallie Oliphant¹ · Jason Mintz¹ · Becca Austin¹ · Susan Burt¹

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Abstract
Introduction We present an uncommon complication of vaginally placed synthetic prolapse mesh and demonstrate repair of rectal mesh perforation.
Methods A 61-year-old was referred with multiple complaints following meshcule repair using a posterior vaginal mesh kit 5 months earlier. In the immediate postoperative period, she experienced severe pain radiating down her right leg, pelvic pain, dyspareunia, dysfecia, diarrhea, and new onset fecal incontinence. Our examination revealed tight, tender mesh arms palpable at the vaginal apex with no evidence of erosion or mesh-vaginal fistula. Rectal examination revealed intrarectal mesh exposure 6 cm from the anal verge, necessitating the mesh lumen 6 cm from the anal verge, necessitating the mesh lumen

Conclusion Our video shows an abdominal approach for mesh removal and repair of rectal mesh injury resulting from vaginal mesh placement. We discuss the rationale for the abdominal approach and review techniques for proper placement of posterior vaginal mesh.

Keywords Posterior vaginal mesh · Mesh complication · Rectal injury

Vaginal mesh has been used in the repair of pelvic organ prolapse since the 1970s. The most recent US data shows that over 300,000 women per year undergo surgical procedures to repair pelvic organ prolapse and one in three of those procedures utilize synthetic mesh augmentation. As of 2010, the

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 sacrocolpopexy. Up to 3 vaginal excision 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.

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MESH INFECTION

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

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MESH RETRACTION

MESH RETRACTION

Retraction of tissues surrounding the mesh is usual with a reduction in the size of the mesh. The average shrinkage is 25–30% in experimental surgery on the rat's abdominal wall; it may reach 40% of the initial surface of the implant in the patients after surgery. Therefore, many surgeons use large implants to cover defects, and anticipate scarring, shrinkage and puckering. Lo *et al*., found 19.6% reduction in the length of mesh on ultrasonography at one month postoperatively.[157] However, contrary to these findings, Dietz *et al*., found no evidence of mesh contraction in their patients.[158] The authors performed four-dimensional ultrasound at 3–53 months in 40 women, at least twice in each to measure mesh dimensions at two time points after implantation. However, objective recurrence of cystocele was seen in 16 patients in this study.

- *Severe pain*
- *Dyspareunia*
- *Vaginal tightness and shortening*

Abdominal Surgical POP Treatment Complications

MESH RETRACTION

First choice:

MEDICAL TREATMENT

Failure

- *SURGICAL TREATMENT*

Abdominal Surgical POP Treatment Complications

DYSPAREUNIA

MESH ?

... BOH ...

Dyspareunia de novo: 2-48%

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PAIN

MESH ?

... BOH ...

Pain de novo: 2-24%

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DYSPAREUNIA AND PAIN

TREAMENT?

... BOH ...

...Removal of the whole mesh...

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BUT SAME COMPLICATIONS FOR EVERY APPROACH?

Abdominal POP Complications

2014

SGS Papers

ajog.org

Perioperative adverse events after minimally invasive abdominal sacrocolpopexy

Cecile A. Unger, MD, MPH; Marie Fidela R. Paraiso, MD; John L. Gebhart, MD; Matthew D. Barber, MD, MHS; Bevi Ridgeway, MD

TABLE 3
Peri- and postoperative adverse events for LSC vs RSC without concomitant rectopexy

Variable	All women (n = 370)	LSC (n = 249)	RSC (n = 121)	Odds ratio (95% confidence interval)[a]	*P* value
Conversion to open abdominal	1.9 (0.9–3.9)	2.0 (0.9–4.6)	1.7 (0.5–5.8)	0.5 (0.1–1.5)	.81
Bladder injury	1.2 (0.5–2.9)	0.4 (0.07–2.2)	3.3 (1.3–8.2)	0.1 (0.02–0.9)	.04[b]
Ureteral injury	0	0	0	—	—
Bowel injury	1.6 (0.7–3.5)	1.2 (0.4–3.5)	2.5 (0.8–7.0)	0.55 (0.1–2.8)	.36
Vascular injury	0.7 (0.3–2.1)	0.8 (0.2–2.9)	0.8 (0.1–4.5)	1.1 (0.1–12.4)	.98
Estimated blood loss >500 mL	1.0 (0.4–2.5)	0	2.5 (0.8–7.0)	0.2 (0.02–0.9)	.01[b]
Wound infection	3.7 (2.3–6.0)	2.8 (1.4–5.7)	4.1 (1.7–9.3)	0.8 (0.3–2.4)	.72
Hematoma	0.7 (0.3–2.1)	1.2 (0.4–3.5)	0	—	.23
Transfusion	0.5 (0.1–1.8)	0.4 (0.07–2.2)	0	0.6 (0.03–8.9)	.49
Pelvic abscess	0.8 (0.3–2.4)	0.8 (0.2–2.9)	0.8 (0.1–4.5)	1.4 (0.3–7.3)	.98
Osteomyelitis	0	0	0	—	—
Deep vein thrombosis/pulmonary embolus	0.5 (0.1–1.8)	0.8 (0.2–2.9)	0	—	.32
Ileus	0.5 (0.1–1.8)	0.8 (0.2–2.9)	0	—	.32
Bowel obstruction	0.8 (0.3–2.4)	0.4 (0.07–2.2)	1.7 (0.5–5.8)	0.6 (0.08–4.0)	.21
Neurologic injury	3.5 (2.1–5.9)	3.6 (1.9–6.7)	3.3 (1.3–8.2)	1.3 (0.4–4.2)	.88
Pulmonary	1.6 (0.7–3.5)	1.6 (0.6–4.1)	1.7 (0.5–5.8)	0.7 (0.2–3.3)	.97
Cardiac	0.8 (0.3–2.4)	0.8 (0.2–2.9)	0.8 (0.1–4.5)	0.8 (0.1–5.0)	.98
Mesh erosion	2.7 (1.5–4.9)	2.4 (1.1–5.2)	3.3 (1.3–8.2)	0.3 (0.06–1.8)	.62
Clavien-Dindo Grading System grade 3[c]	26.3 (22.0–31.0)	26.4 (21.3–32.3)	26.1 (19.0–34.6)	1.0 (0.6–1.5)	.81

Data unadjusted for baseline differences and presented as % (95% confidence interval).
LSC, conventional laparoscopic sacrocolpopexy; *RSC*, robotic-assisted laparoscopic sacrocolpopexy.
[a] Unadjusted odds ratio; [b] Statistically significant difference at $\alpha = .05$; [c] Requires surgical, endoscopic, or radiologic imaging/intervention (with or without anesthesia).

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Perioperative adverse events after minimally invasive abdominal sacrocolpopexy

Cecile A. Unger, MD, MPH; Marie Fidela R. Paraiso, MD; John L. Gebhart, MD; Matthew D. Barber, MD, MHS; Bevi Ridgeway, MD

TABLE 4
Peri- and postoperative adverse events for the women who underwent concomitant rectopexy

Variable	All women (n = 406)	No rectopexy (n = 370)	All rectopexy (n = 36)	Odds ratio (95% confidence interval)[a]	*P* value
Conversion to open abdominal	1.7 (0.8–3.5)	1.9 (0.9–3.9)	0	—	.41
Bladder injury	1.2 (0.5–2.9)	1.4 (0.6–3.1)	0	—	.48
Ureteral injury	0	0	0	—	—
Bowel injury	1.5 (0.7–3.2)	1.6 (0.7–3.5)	0	—	.44
Vascular injury	0.7 (0.3–2.1)	0.8 (0.3–2.4)	0	—	.59
Estimated blood loss >500 mL	1.0 (0.4–2.5)	0.8 (0.3–2.4)	2.8 (0.5–14.2)	3.5 (0.4–34.5)	.55
Wound infection	3.7 (2.3–6.0)	3.2 (1.9–5.9)	8.3 (2.9–21.8)	2.7 (0.7–10.1)	.12
Hematoma	0.7 (0.3–2.1)	0.8 (0.3–2.4)	0	—	.59
Transfusion	0.5 (0.1–1.8)	0.3 (0.05–1.5)	2.8 (0.5–14.2)	10.5 (0.6–172.2)	.02[b]
Pelvic abscess	1.7 (0.8–3.5)	0.8 (0.3–2.4)	11.1 (4.4–25.3)	15.3 (3.3–71.3)	< .001[b]
Osteomyelitis	0.5 (0.1–2.5)	0	5.6 (1.5–18.1)	—	< .001[b]
Deep vein thrombosis/pulmonary embolus	0.5 (0.1–1.8)	0.5 (0.1–1.9)	0	—	.55
Ileus	0.7 (0.3–2.1)	0.5 (0.1–1.9)	2.8 (0.5–14.2)	5.3 (0.5–59.4)	.13
Bowel obstruction	1.0 (0.4–2.5)	0.8 (0.3–2.4)	2.8 (0.5–14.2)	3.5 (0.4–34.5)	.25
Neurologic injury	3.2 (1.9–5.4)	3.5 (2.1–5.9)	0	—	.25
Pulmonary	1.7 (0.8–3.5)	1.6 (0.7–3.5)	2.8 (0.5–14.2)	1.7 (0.2–14.8)	.63
Cardiac	1.2 (0.5–2.9)	0.8 (0.3–2.4)	5.6 (1.5–18.1)	7.2 (1.2–44.6)	.01[b]
[illegible]	[illegible]	[illegible]	[illegible]	1.3 (0.2–10.6)	.81
Dindo grade 3[c]	27.1 (108)	26.2 (95)	37.1 (13)	1.8 (9–3.6)	.16

[illegible]
* Unadjusted odds ratio; [b] Statistically significant difference at $\alpha = .05$; [c] Requires surgical, endoscopic, or radiologic imaging/intervention (with or without anesthesia).

Abdominal Surgical POP Treatment Complications

2014

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journal homepage: www.europeanurology.com

European Association of Urology

Platinum Priority – Review – Reconstructive Urology
Editorial by Elisabetta Costantini and Massimo Lazzeri on pp. 319–320 of this issue

Robot-assisted Sacrocolpopexy for Pelvic Organ Prolapse: A Systematic Review and Meta-analysis of Comparative Studies

Maurizio Serati[a,], Giorgio Bogani[a], Paola Sorice[a], Andrea Braga[a], Marco Torella[b], Stefano Salvatore[c], Stefano Uccella[a], Antonella Cromi[a], Fabio Ghezzi[a]*

[a] Department of Obstetrics and Gynecology, University of Insubria, Varese, Italy; [b] Department of Obstetrics and Gynecology, Faculty of Medicine, 2nd University of Naples, Italy; [c] Department of Obstetrics and Gynecology, IRCCS San Raffaele Hospital, Milan, Italy

Abdominal POP Complications

NO DIFFERENCE


…in conclusion…

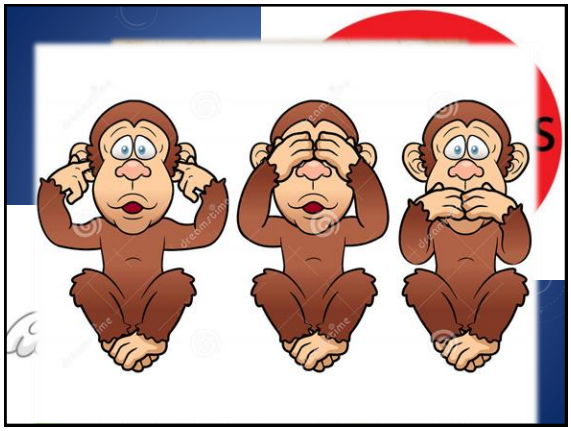

How many complications?


BOH


WHAT SOLUTION?


BOH


…BUT… REMOVAL!!!




Sometimes it is better to remain silent and appear stupid than open your mouth and remove all doubts
Thank you
Varese

ICS 2017 FLORENCE

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

UZ LEUVEN

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

UZ LEUVEN

Preoperatively discuss with the patient:

" better spend time with the patient before surgery then with the lawyer after surgery"

UZ LEUVEN

"doctor, I feel pain after having the surgery"

PAIN AND DYSPAREUNIA

UZ LEUVEN

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

UZ LEUVEN

Prospect trial

	Mesh trial		Graft trial	
	Standard repair n = 430 n = 395 n = 348	Synthetic mesh n = 435 n = 389 n = 3343	Standard repair n = 367 n = 342 n = 299	Biological graft n = 368 n = 337 n = 300
Symptomatic prolapse*	100% (409/409) 83% (328/395) 82% (283/347)	99% (412/414) 85% (329/389) 85% (291/342)	100% (340/340) 83% (283/342) 81% (242/298)	99% (339/342) 82% (276/337) 82% (245/299)
Urinary incontinence (severe)	19% (78/403) 6% (21/361) 6% (19/343)	21% (86/408) 8% (29/354) 6% (21/334)	19% (65/337) 8% (26/315) 7% (21/294)	22% (74/339) 5% (17/313) 7% (20/297)
Faecal incontinence	34% (140/108) 28% (102/365) 26% (89/343)	34% (138/406) 25% (91/358) 27% (92/338)	33% (113/338) 27% (84/316) 27% (81/295)	36% (121/338) 25% (77/314) 26% (77/298)
Dyspareunia	8% (18/217) 4% (8/168) 5% (9/166)	7% (13/197) 5% (9/173) 3% (4/145)	11% (20/175) 6% (9/149) 4% (5/125)	11% (21/186) 5% (8/165) 4% (6/154)

baseline
1 y
2 y

* POP-SS of > 0 !!

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 approach

If necessary: perform clinical examination under general anesthesia

Repeat clinical examination

- 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

Clinical approach

- 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

treatment

- Surgical if:
  - Complicated mesh (extrusion/fixation)
  - Abnormal tensioning (sutures/mesh) ("like string") (due to shrinkage/contracture)
  - Fistulae

treatment

- Surgical if:
  - Complicated mesh (extrusion/fixation)

    → ***Partial/total excision***
  - Abnormal tensioning (sutures/mesh) ("like string") (due to shrinkage/contracture)

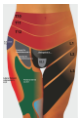
    → ***Partial/total excision***
  - Fistulae

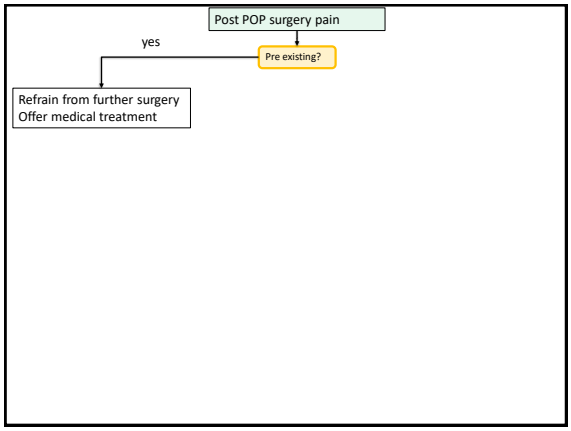
    → ***Fistula repair +/- mesh excision***

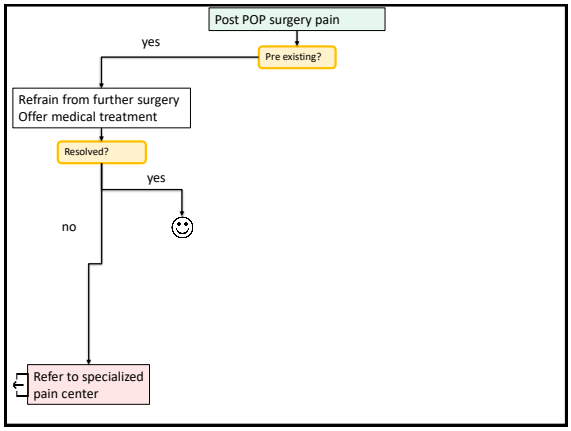
    → ***Abdominal vs. vaginal***

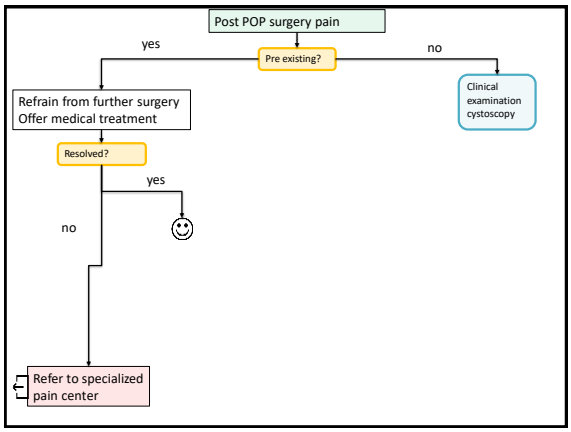
treatment

- "Medical" if:
  - Pre-existing pain
  - No clear, reproducible pain on clinical examination
  - Persisting pain after surgical treatment
- "medical" treatment = multimodal
  - Painkillers → neuropathic pain meds
  - Pelvic floor muscle physiotherapy
  - Locoregional blocks
  - Psychological (sexuological) help




Post POP surgery pain
Pre existing?
yes
Refrain from further surgery
Offer medical treatment


Post POP surgery pain
Pre existing?
yes
Refrain from further surgery
Offer medical treatment
Resolved?
yes
no
Refer to specialized
pain center


Post POP surgery pain
Pre existing?
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no
Clinical
examination
cystoscopy
Refrain from further surgery
Offer medical treatment
Resolved?
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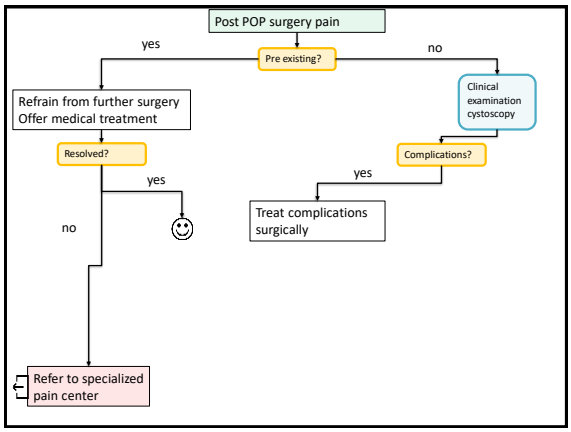
Post POP surgery pain
Pre existing?
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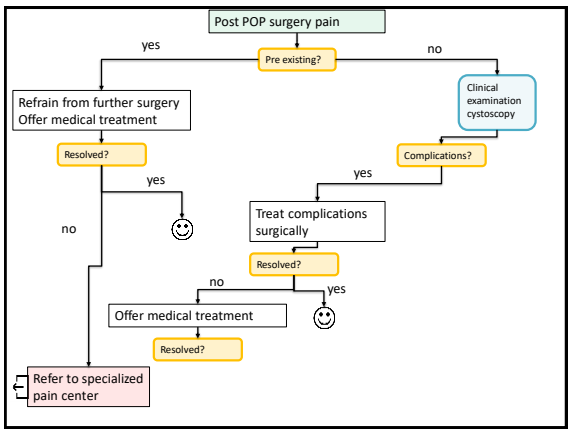
Clinical
examination
cystoscopy
Refrain from further surgery
Offer medical treatment
Resolved?
Complications?
yes
yes
Treat complications
surgically
yes
no
Refer to specialized
pain center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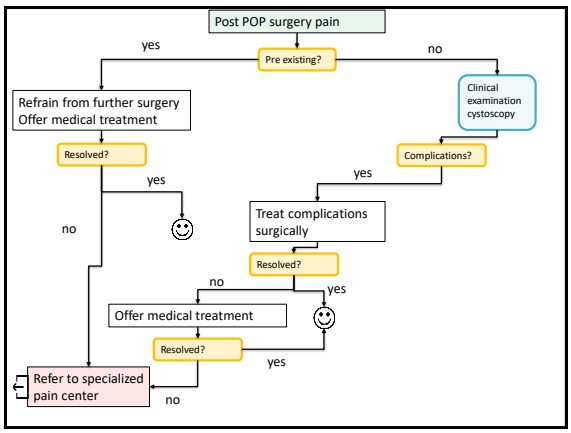
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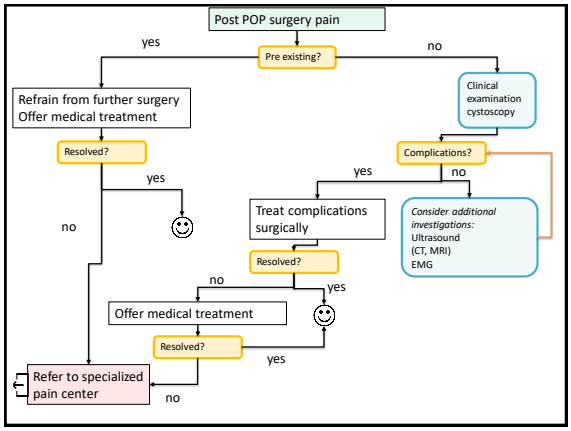
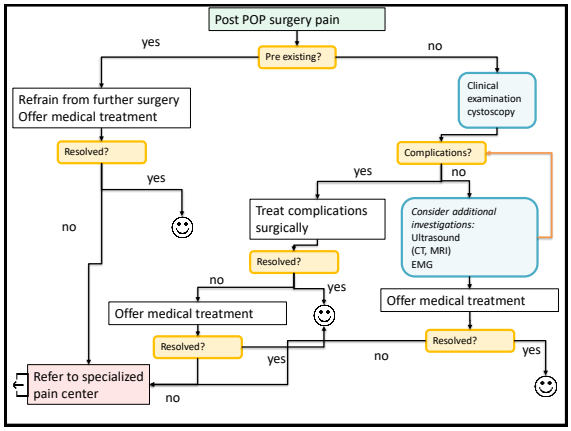




UZ LEUVEN

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)

UZ LEUVEN

Specific causes of postoperative dyspareunia

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

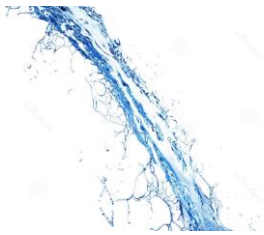
UZ LEUVEN

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 corner stone

UZ LEUVEN

INCONTINENCE



" 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 valsalva
- Lithotomy and if necessary standing
- With prolapse reduction stress test

To sling or not to sling

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

A Midurethral Sling to Reduce Incontinence after Vaginal Prolapse Repair

John T. Wei, M.D., Ingrid Nygaard, M.D., Holly E. Richter, Ph.D., M.D., Charles W. Nager, M.D., Matthew D. Barber, M.D., M.H.S., Kim Kenton, M.D., Cindy L. Amundsen, M.D., Joseph Schaffer, M.D., Susan F. Meikle, M.D., M.S.P.H., and Cathie Spino, D.Sc., for the Pelvic Floor Disorders Network

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

Wei et al NEJM 2012

Outcome

		TVT	sham
Positive cough stress test	Preop	54/165 (33%)	57/172 (33%)
	3M	10/158 (6,3%)	54/157 (34,4%)
	12M	5/143 (3,5%)	31/151 (20,5%)

In the group of patients with a positive prolapse reduction stress test preop	TVT	sham
Postoperative incontinence symptoms	29,6%	71,9%

Wei et al NEJM 2012

Safety issues

Adverse events		TVT	sham	P
Bladder perforation		11/164 (6,7%)	0/172	< 0,01
Mesh exposure		0/160	0/171	
UTI		49/158 (31,0%)	30/164 (18,3%)	0,008
Major bleeding		5/164 (3,0%)	0/172	0,03
Incomplete bladder emptying	At discharge	69/162 (42,6%)	51/170 (30,0%)	0,02
	At 2 wk	9/163 (5,5%)	1/169 (0,6%)	0,01
	At 6 wk	6/162 (3,7%)	0/170	0,01
Urethrolysis		4/165 (2,4%)	0/172	0,06

Wei et al NEJM 2012

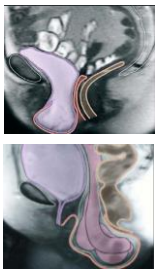
lessons

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

RECURRENT PROLAPSE

"doctor, I think te surgery has failed"

- recurrent lump feeling…



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

Denman et al Am J Obstet Gynecol 2008
Lavelle et al Am J Urol 2016

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

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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 Maher et al Cochrane Database Syst Rev 2016: CD004014

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lessons

- Prolapse in the same compartment is reatively frequent (altough 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

UZ LEUVEN

conclusions

- Only treat symptomatic/high grade POP
- Pain has to be investigated en 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…

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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

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Matteo Balzarro M.D.

Affiliations to disclose†:

None

† All financial ties (over the last year) that you may have with any business organisation with respect to the subjects mentioned during your presentation

Funding for speaker to attend:

- [X] Self-funded
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How many of you do Stress Urinary Incontinence (**SUI**) **surgical treatments?**

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

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

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In this case, does she leaks urine?

No → Occult SUI? → No / 80% Yes

Yes

What to do?

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American Urological Association

AUA GUIDELINES

Guideline Statement 20

In patients undergoing concomitant surgery for pelvic prolapse repair and stress urinary incontinence, physicians may perform any of the incontinence procedures (e.g., midurethral sling, pubovaginal sling, Burch colposuspension). ***(Conditional Recommendation; Evidence Level: Grade C)***

www.auanet.org/guidelines/stress-urinary-incontinence-(sui)-new-(aua/sufu-guideline-2017)

When specifically considering **patients without SUI symptoms preoperatively**, two important studies provide guidance:

- **The CARE trial (2008)**: lower rate of postoperative SUI when Burch + abdominal sacrocolpopexy (even with no preoperatively occult SUI)
- **The OPUS trial (2009)**: lower rate of SUI whit concomitant sling. However, the number of patients needed to treat with a sling to prevent one case of incontinence was 6.3. Thus, 5 of 6 patients who had a sling placed had an unnecessary procedure with the additional (small but real) risk of increased morbidity.

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European Association of Urology

GUIDELINES http://uroweb.org/guideline/urinary-incontinence/

Recommendations for women requiring surgery for bothersome pelvic organ prolapse who have symptomatic or unmasked stress urinary incontinence	GR
Offer simultaneous surgery for pelvic organ prolapse and stress urinary incontinence.	A
Warn women of the increased risk of adverse events with combined surgery compared to prolapse surgery alone.	A

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eau guidelines

Summary of evidence	LE
Women with prolapse + urinary incontinence	
Surgery for pelvic organ prolapse (POP) + stress urinary incontinence shows a higher rate of cure of urinary incontinence in the short term than POP surgery alone.	1a
There is conflicting evidence on the relative long-term benefit of surgery for POP + stress urinary incontinence vs. POP surgery alone.	1b
Combined surgery for POP + stress urinary incontinence carries a higher risk of adverse events.	1b
Continent women with pelvic organ prolapse	
Are at risk of developing urinary incontinence post-operatively.	1a
The addition of a prophylactic anti-incontinence procedure reduces the risk of post-operative urinary incontinence.	1b
The addition of a prophylactic anti-incontinence procedure increases the risk of adverse events.	1b
Women with pelvic organ prolapse and overactive bladder	
There is some low-level inconsistent evidence to suggest that surgical repair of POP can improve symptoms of overactive bladder.	3
Surgery for POP + occult stress urinary incontinence shows a higher rate of cure of occult stress urinary incontinence in the short term than POP surgery alone.	1a
Combined surgery for POP + stress urinary incontinence carries a higher risk of adverse events than POP surgery alone.	1b

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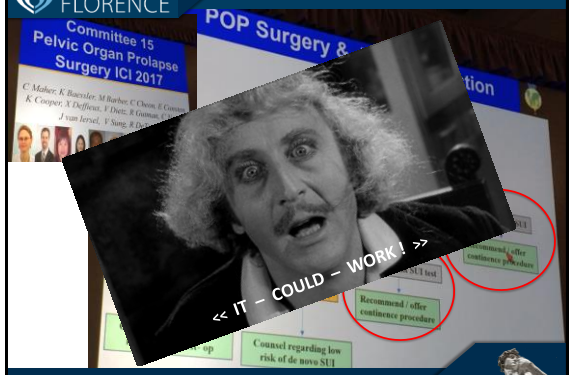
IUGA 2017, Vancouver



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Before surgery → **During** surgery → **After** surgery

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Prevention: **before** surgery

- 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

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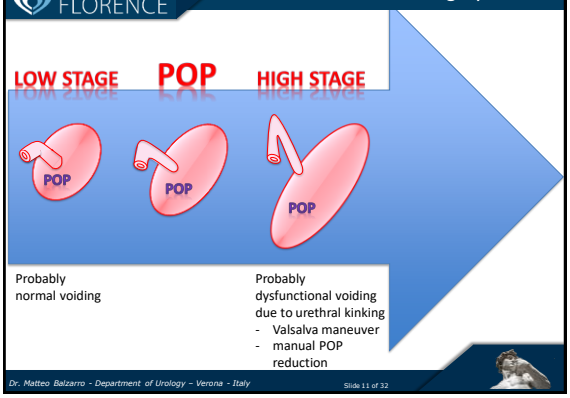
Prevention: **before** surgery



Probably normal voiding

Probably dysfunctional voiding due to urethral kinking
- Valsalva maneuver
- manual POP reduction

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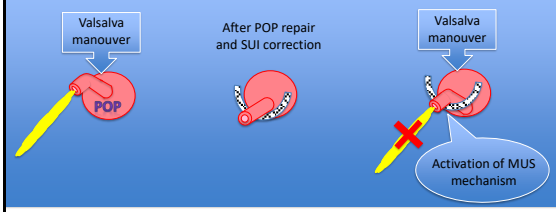
Prevention: **before** surgery

Woman with POP and wrong voiding attitudes

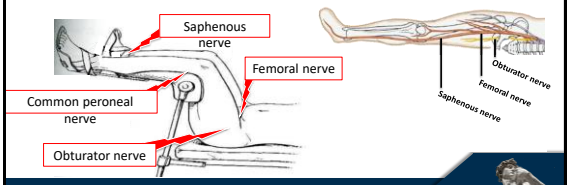


Prevention: **before** surgery

- 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 anticoagulats/antiplatelet drugs before surgery

Prevention: **during** surgery

- Good **positioning** of the patient **on the surgical table**
- ✓ Positioning before the anesthesia, and ask patient to keep thighs relaxed
- ✓ POP and SUI may request different patient's positioning
- ✓ Wrong positioning may gain nerve injuries (stretching or compressing)



Prevention: **during** 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)

S. Choi, P. Mahon, I.T. Awad, *Can J Anesth 2012*

Prevention: **during** surgery

Local anesthetic drugs	Drug potence	POUR	Bladder Recover… n (h)
Tetracaine	High	> 20%	n.a.
Bupivacaine	High	> 20%	
Procaine	Medium		
Lidocaine	Medi…		

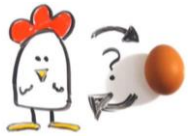
Opioid…			Bladder Recovery Time min (h)
		25-36%	n.a.
F…	…ry high	0-25%	n.a.
Su…	medium	0-25%	n.a.
Sufe…	…idocaine	Prolonged bladder disfunction by over 1h30'	

THE TIME NEEDED FOR THE ONLY POP REPAIR IS DIFFERENT FROM THE TIMING NEEDED FOR POP+SUI REPAIR … SHARE THIS INFORMATION WITH YOUR ANESTHETIST !!

Prevention: **during** surgery

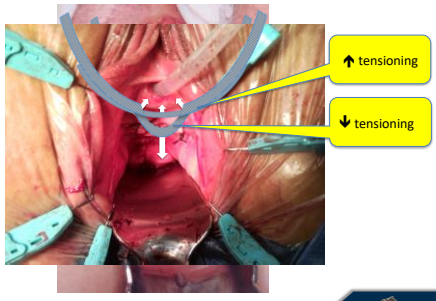
WHICH CAME FIRST ?

"THE CHICKEN – OR- THE CHICKEN EGG"



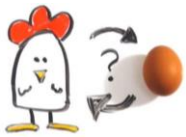
"POP REPAIR – OR- IUS REPAIR"

Prevention: **during** surgery



Prevention: during surgery

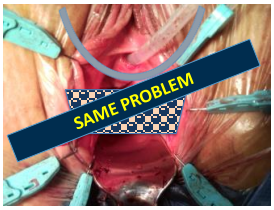
WHICH COMES FIRST ?



FIRST: POP REPAIR!

Prevention: during surgery

… 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

Prevention: during surgery

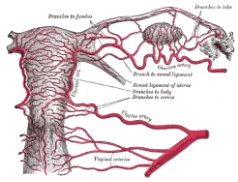
Prevention: during surgery

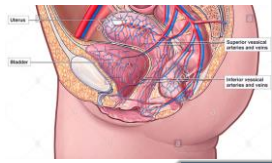
- **MUS**
  - ✓ do not make a long single incision for anterior POP repair and MUS: tape can slip to bladder neck
  - ✓ Limit the peri-urethral dissection to [illegible] provide sufficient
  - ✓ Fix the sling to peri-urethral fascia to prevent migration or slipping
  - ✓ "Air knot" in the suspension sutures above the rectus fascia to ensure suspension without tension

"Prevention of obstruction during surgery may be the best way to avoid reoperation"
Roger R. Dmochowsky

Prevention: during surgery

- **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





Prevention: during surgery

- **Direct injury to bladder or urethra by trocar passage**
  - ✓ Intraoperative urethro-cystoscopy to evaluate the damage
  - ✓ What to do?
    1. Remove and replace the trocar, and be sure not to be inside the bladder again!
    2. Drain the bladder with an indwelling catheter, how long? It depends from the extent of injury
    3. 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"

Prevention: after surgery

- **Avoid bladder over-distension**
  - ✓ Pain control by epidural: denervating the regional pelvic nerves for pain control also leads to denervation of the bladder for a transient period of time
  - ✓ **P**ost **O**perative **U**rinary **R**etention (**POUR**) identification, post-void residual must be checked

Complications

- **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

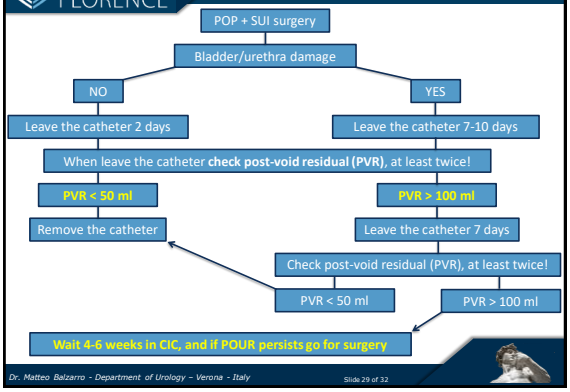
Complications: POUR management

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?

Complications: POUR management



Complications

- **Infection of the tape**
  - Management:
    - Local topic antibiotics --> systemic antibiotics --> exposed tape excision if remains problematic
- **Exposure**
  - Management:
    - Local topic estrogen --> suture of the mucosa --> exposed tape excision if remains problematic
- **Pain**
  - Causes:
    - Nerve entrapment
    - Obturator longus trauma in trans-obturator procedures
    - Incorrect lithotomy positioning
    - Tissues reaction to synthetic materials
  - Management:
    - Pain medication --> imaging --> possible sling excision if remains problematic

NO DIFFERENT MANAGEMENT WITH OR WITHOUT POP SURGERY

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THANK YOU FOR YOUR ATTENTION

For any question please… say your name and country

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WORKSHOP 12

COMPLICATIONS IN PELVIC ORGAN PROLAPSE AND STRESS URINARY INCONTINENCE MANAGEMENT

CLINICAL CASES

Tuesday 12th september 2017

ICS 2017 FLORENCE

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 (size100mm)

- 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

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Case 1

In literature are reported several cases related severe complication in neglected pessaries… the question is in women with severe prolapse and a complication by pessary use, how would you treat the POP after pessary removal?

How many in the audience use pessaries for POP?

Any experience from the audience about pessary complication?

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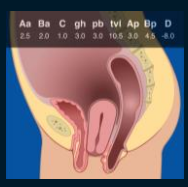
Case 2

57 y.o. woman with symptomatic POP

Vaginal examination: anterior defects; uterus descensus; posterior vaginal wall defect associated to low anal descensus into sphinter/anal canal (Oxford grading IV). No SUI.



Case 2

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 attempt of removal all with urine residual > 450 ml
Options proposed were:
- Indwelling catheter/CIC
- … wait and see

What to do?

Case 2

The patient had Foley removal after 4 months… POUR was persistent

What to do?

Options proposed were:
- OnaBontA Injections laterally to urethra
- Catheter removal and wait and see…

Do you agree?

Surgeons decided:
- To leave the patient without catheter and wait and see…
- To ask proctologists to resolve posterior POP and the low anal descensus into sphinter/anal canal

Case 2

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…