

| Start | End | Topic | Speakers |
|-------|-------|--|---|
| 14:30 | 14:40 | - Much is said about physical therapy, but what is the evidence? | Carlos D'Ancona |
| 14:40 | 14:50 | - How to select the technique? | Daniel Moser |
| 14:50 | 15:00 | - For How long is the surgery is? | Matthias Oelke |
| 15:00 | 15:10 | - How do you deal with complications: infection, erosion. | Gommert van Koeveringe |
| 15:10 | 15:30 | - Discussion | Carlos D'Ancona Gommert van Koeveringe Matthias Oelke Daniel Moser |

Aims of Workshop

The objective of this workshop is to identify and answer the main questions of patients with urinary incontinence after radical prostatectomy and to allow the discussion of how to interpret and solve their problems. The discussion of the selected questions attempts to observe the anxieties and concerns of the patients affected by this comorbidity. The expected outcome is to learn how we can improve treatment under emotional and functional aspects.

Learning Objectives

It is important that the identification of patients who may benefit from PFMT and when to start treatment. Many techniques have been described for the treatment of urinary incontinence and some exams may support the selection of the best techniques for each case. Despite the good results, urinary incontinence relapse and complications may occur and treatments of how to solve will be presented. Finally, we will discuss cases and present solutions and answer questions.

Target Audience

Urologists, Physical therapists, Nurses

Advanced/Basic

Intermediate

Suggested Learning before Workshop Attendance

Machioka K, Kadono Y, Naito R et al. Evaluating urinary incontinence before and after radical prostatectomy using the international consultation on incontinence questionnaire-short form. *Neurourol Urodyn*. 2018 Dec 21. doi: 10.1002/nau.23907. [Epub ahead of print]

Averbeck MA, Woodhouse C, Comiter C et al. Surgical treatment of post-prostatectomy stress urinary incontinence in adult men: Report from the 6th International Consultation on Incontinence. *Neurourol Urodyn*. 2018 Oct 23. doi: 10.1002/nau.23845. [Epub ahead of print]

Tutolo M, Cornu JN, Bauer RM et al. Efficacy and safety of artificial urinary sphincter (AUS): Results of a large multi-institutional cohort of patients with mid-term follow-up. *Neurourol Urodyn*. 2018 Dec 21. doi: 10.1002/nau.23901. [Epub ahead of print]

Trofimenko V, Myers JB, Brant WO3 Post-Prostatectomy Incontinence: How Common and Bothersome Is It Really? *Sex Med Rev*. 2017 Oct;5(4):536-543.

Much is said about physical therapy, but what is the evidence?

Prof. Dr. Carlos D'Ancona

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Radical prostatectomy (RP) is one of most frequent treatment for localized prostate cancer. Despite excellent oncologic results, morbidity associated with the procedure as urinary incontinence (UI) and erectile dysfunction (ED) deeply affect patient's quality of life (QoL) and may delay return to work and/or usual physical and social activities (1).

Urinary incontinence after radical prostatectomy, regardless of the technique used, varies between 5 to 57%, notably during the first year after surgery. Although there is no consensus on post prostatectomy urinary incontinence pathophysiology has been attributed: urethral sphincter insufficiency, detrusor overactivity, detrusor hypoactivity and low compliance .

Conservative management includes behavioral alterations to prevent leakage, pelvic floor muscle training (PFMT) with or without biofeedback, electrical stimulation, extra-corporeal magnetic waves, compression devices (penile clamps), lifestyle changes, or a combination of methods. The value of the various approaches to conservative management of post-prostatectomy incontinence after radical prostatectomy remains uncertain. Preoperative PFMT is thought to improve postoperative urinary incontinence after radical prostatectomy (2).

The advantage of PFMT is that it is a noninvasive method with no side effects and easily performed. It is considered an actual method of treatment of urinary incontinence. The aim of physiotherapy is to improve pelvic floor muscles proprioception, to increase tone of anus levator muscles and to favour automatization of these muscles in daily life. PFMT may improve the ability to increase urethral closure during stress episodes.

A recent randomized clinical trials show different results: improved or not early continence. The explanation is that the definitions of the outcomes, is zero pad or safety/one pad. However, the same reports presented an improvement in the QoL. It would be that the QoL is the primary outcome and reflect the clinical scenario that the patient faces and ultimately would inform decision making, at the bedside, to a much greater degree (3).

Urinary incontinence gradually improves during the first year after surgery and it is necessary to distinguish early from delayed incontinence patients. Surgical reconstructive treatment is indicated after 12 months of RP which keeps patients with a decreased QoL during this period. PFMT is an attractive treatment option during the first year after surgery, presenting good results such as reducing recovery continence time as well as incontinence severity.

References

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3 - Penson DF: Post-prostatectomy Incontinence and Pelvic Floor Muscle Training: A Defining Problem. Eur Urol 2013, 64: 773 – 776.

How to select the technique?

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Radical prostatectomy (RP) and a transurethral resection of the prostate (TURP) are the most frequent causes of post-operative incontinence in men. Recent studies indicated that the most used devices to treat these patients are male slings (36.4%) and artificial urinary sphincters (AUS) (34.9%).¹ Clinical history, physical exam are usually accompanied with pre-operative assessment in order to improve the surgical decision-making. Contemporary post-prostatectomy incontinence (PPI) may be evaluated by many ways like combination of history, number of pads per day (PPD), pad weights, cystoscopy, repositioning test, urodynamics, quality of life and incontinence questionnaires.²⁻⁵ The vast majority of researchers agree that standardization of preoperative diagnostic evaluation, as well as postoperative definitions of success are very important for incontinence protocols.⁶ Although there is no consensus regarding the utility and real necessity of each of these methods.⁷⁻⁹

A consequence of this wide number of pre-operative assessment possibilities is a huge difference between the various protocols and also with difficulty to compare patient cohorts and consequently the success rates. The complete standardization in pre-operative assessment is a difficult goal because it evolves more than what is right or wrong but also surgeon personal points of view, self-confidence, previous experience with assessment methods, techniques and surgical outcomes. Although complete standardization of pre-operative assessment seems a remote possibility, anyone can easily agree that when one speaks with the language of the majority makes his ideas more understandable and consequently more acceptable. The main question is how to get it standardized? This workshop will hopefully help with future standardization and understand the current practice.

References

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4. Bauer RM, Grabbert MT, Klehr B, et al: 36-month data for the AdVance XP((R)) male sling: results of a prospective multicentre study. *BJU Int* 119:626-630, 2017
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8. Sturm RM, Guralnick ML, Stone AR, et al: Comparison of clinical outcomes between "ideal" and "nonideal" transobturator male sling patients for treatment of postprostatectomy incontinence. *Urology* 83:1186-8, 2014
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How do you deal with complications: infection, erosion

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If an implantable device is chosen, complications may occur such as malfunction of the device, infection or erosion. Complication rates are dependent on the type of procedure, the patient's previous medical history and surgical technique. Sling surgery post prostatectomy has the following positive predictive factors: Age under 71, patient using less than 5 pads a day, circumferential coaptation of the urethra during preop cystoscopic evaluation, dry at night and patient can reach the bathroom in the morning without leakage, the patient did not have previous Radiotherapy or TURP/BOO surgery. (Bauer 2017) Infection or erosion after sling surgery are rare but may occur: more often after perineal compressive slings than after retro-urethral repositioning slings.

Artificial urinary sphincters (AUS) generally have a higher cure rate than slings, have a significantly higher cure rate after radiotherapy but the infection and erosion rates are higher. Infection and erosion rates differ among studies: Lindner et al 2015 described 31% urinary retention, 2 % infection and 2 % erosion. Van der Aa 2013 described: 6 % mechanical failure, 8 % urethral atrophy, 8,5% infection and erosion and a 26% reoperation rate. Although evidence is conflicting on complication rates of the artificial sphincter after radiotherapy generally the rate has been described higher than after just radical prostatectomy. Van Bruwaene in 2015 reviewed post radiotherapy complications after sling and AUS and found that for sling surgery radiotherapy was a negative predictive factor in almost all studies and for AUS in only in some studies a higher complication rate was identified. Radomski 2018 retrospectively found no relationship of AUS device explantation and revision after radiotherapy. Moser et al 2018 identified radiotherapy as a significant riskfactor for erosion and complications after recurrent AUS. In AUS, generally risk factors for cuff erosion are: radiotherapy, Urethral catheterization, revision surgery and the use of a 3,5 cm cuff. Patient specific risk factors are: diabetes, hypertension and coronary artery disease. (Siegel 2015).

Erosions are best managed by removing all parts of the device, catheter placement and reoperation after 4 tot 6 months. Cuffs can then be placed in another location or transcorporally. Salvage procedures after erosion with antibiotics are obsolete. (Gross 2017, Eswara 2015)

The learning objectives are to give sufficient evidence in combination with experience data to be able to manage expectations of a patient before post prostatectomy incontinence surgery. In addition management and therapy options are discussed in case of an erosion or infection.

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For how long is the surgery?

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Introduction

Median- or long-term rates for complete continence (i.e. cure), great improvement (i.e. social continence) or little/no improvement of continence or even deterioration of incontinence (i.e. failure) are available for all three prototypes but only the artificial urinary sphincter can demonstrate continence results ≥ 8 years after implantation due to its usage since 1983. It also has to be taken into account that patients may have had (multiple) revision operations to restore continence. In order to correctly judge the efficacy of the three prototypes of devices, the reader also has to consider the preoperative incontinence severity/ number of pads, previous continence operations and previous radiotherapy of the small pelvis. Therefore, one continence device can deliver different outcomes due to different patient populations. There may even be a publication bias because the majority of publications originate from high-volume centers with experienced, highly trained and specialized surgeons. Therefore, published continence results may not reflect the real-life situation.

Non-adjustable tapes

Taken together the information of the published literature on the AdVance® sling, approx. 77-90% of patients are dry or improved after 36 months and approx. 60-70% after 60-70 months.

Pre-treatment incontinence severity (pad usage) and younger patient age (≤ 71 years) were the predictive parameters for treatment success [2,6]. Previous radiotherapy of the small pelvis (for the treatment of prostate cancer) was associated with lower success rates [7,8]. *De novo* urgency appeared in 16.6% of patients during a follow-up of 60 months [5].

Adjustable tapes

The potential advantage of adjustable tapes is to repeatedly modify urethral compression after the implantation, thereby adjusting the compression to the individual needs without a new operation. Due to the later introduction of the ATOMS® device, continence results are only available for a median follow-up ≤ 34 months. At a median follow-up of 18.5 months (range: 12-26 months) and a median number of 1 adjustment (range: 0-5), 85.3% of patients were dry and 8.8% improved [9].

Artificial urinary sphincter

Several revision operations are necessary during long-term follow-up of the artificial urinary sphincter (AMS800®). Taken together the information of the published literature on the artificial urinary sphincter (AMS800®), approx. 85-91% of patients are dry or improved after ≤ 60 months and 77% after 180 months.

Conclusions

Despite different patient populations, non-adjustable slings, adjustable tapes or artificial urinary sphincters achieve similar long-term continence rates at the level of 70-80%. However, when patients can decide whether they want an artificial urinary sphincter or a sling, the majority of patients (92%) would opt for a sling [17].

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