Urogynecology digest

Presented by Daniela Ulrich

Can antiseptic-coated or antimicrobial-impregnated catheters reduce the risk of postoperative urinary tract infection?

Types of indwelling urethral catheters for short-term catheterisation in hospitalised adults. Lam TBL, Omar MI, Fisher E, Gillies K, MacLennan S Cochrane Library 2014, Issue 9, CD004013

This Cochrane review compared different catheters during short-term use for up to 14 days postoperatively in hospitalized adults. The primary outcome was to review the reductions in symptomatic catheter-associated urinary tract infections (CAUTIs). The authors included 26 randomized controlled trials (RCTs) and quasi-RCTs comparing any indwelling catheters. The trials involved 12,422 hospitalized adults in 25 parallel group trials, and 27,878 adults in one large cluster-randomized crossover trial. Only one trial had symptomatic CAUTIs as the primary outcome measure. No study compared one noncoated catheter with another, nor did they compare one antiseptic-coated catheter with another or one antimicrobial-impregnated catheter with another. The studies assessed antiseptic-coated catheters including catheters coated with silver oxide, silver alloy, silver alloy hydrogel and noble metal alloy-coated latex, and antimicrobial-impregnated catheters including catheters impregnated with nitrofurazone or minocycline/rifampicin in comparison with various types of latex, siliconized and polyvinyl chloride catheters. The population was very heterogeneous since the trials included women and men after many kinds of surgery. Consequently the duration of catheterization also varied between 48 h and 14 days. The use of catheters coated with a silver-based agent (silver oxide or silver alloy) did not significantly reduce the incidence of CAUTIs or asymptomatic bacteriuria. Contradictory results were obtained for silver alloy catheters with slightly fewer patients complaining of discomfort for the coated catheter. The use of nitrofurazone-impregnated siliconized catheters reduced the incidence of CAUTIs with borderline significance. Similarly, the use of nitrofurazone-impregnated catheters was associated with a lower rate of bacteriuria but also more patients complaining of discomfort.

Postoperative catheterization is often necessary but associated problems including CAUTIs and discomfort are a burden on

patients. Antimicrobial-impregnated and antiseptic-coated indwelling urethral catheters were introduced into clinical practice to reduce symptomatic CAUTIs. The idea of reducing CAUTIs with coated catheters was innovative but this review did not find strong evidence that these catheters significantly reduce the rate of CAUTIs compared with standard catheters. Furthermore, the coated catheters are notably more expensive and are more likely to cause discomfort in patients, supporting the recommendation that standard catheters should be used for postoperative catheterization. Strict sterile precautions before introducing the catheter and a reduction in duration of catheterization seem to be important. The new catheters might be an alternative in patients at risk of urinary tract infections or when longer catheterization is necessary; however, more studies are needed to address these issues.

Are injections with onabotulinumtoxinA exceeding the recommended dose safe?

Incidence of adverse events after high doses of onabotulinumtoxinA for multiple indications. Nuanthaisong U, Abraham N, Goldman HB, Urology 84:1044–1048, 2014

This retrospective cohort study compared side effects in patients receiving either the recommended dose of onabotulinumtoxinA or a dose higher than recommended. The study included 13 patients (11 women and 2 men) receiving onabotulinumtoxinA for at least one urogynaecological and other medical conditions such as neurogenic detrusor activity or idiopathic urinary incontinence. Twelve patients were diagnosed with multiple sclerosis, and one had a spinal cord injury. The additional injections were mainly performed for increased spasticity of the extremities. The rate of side effects in patients who did not receive more than 360 IU at one time or within 3 months was compared with the rate in patients who received doses higher than this. In total 65 injection sessions using >360 IU of onabotulinumtoxinA were analysed with a median dose of 800 IU at each injection and a median interval of 54 days between them. In the same patients 70 injections were performed as recommended by the FDA not exceeding 360 IU within 3 months of the first injection. A further 48 injections involved >360 IU with a longer interval

between them (>90 days). The total of 183 injections led to 6 (3.3 %) adverse effects (AE), all in patients receiving overdose injections. The AE occurred within 1 week of injection and included general weakness, extremity weakness and pain. All symptoms of the AE resolved within a few weeks. No severe AE were reported nor was there any AE-associated death.

The treatment of neurogenic detrusor activity or idiopathic urinary incontinence challenges many physicians. When conservative or pharmacological treatment is ineffective injection of onabotulinumtoxinA is recommended. Since the biological half-life of onabotulinumtoxinA is short, repeated injections or an increase in the dose can be necessary. Several injections may be needed at multiple sites, particularly in patients with associated neurological diseases. This study revealed that high doses of onabotulinumtoxinA may be administered without severe AE as shown by off-label use of onabotulinumtoxinA. However, due to its retrospective design and the small number of patients, the drawing of conclusions needs to be done with care. The authors state that they would have detected death as a severe AE, but not other severe side effects if reference to them was missing from the chart. There are also no data available on subjective outcome measures assessing patient stress when experiencing an AE. Furthermore, only three of the included patients received injections into the bladder only. None of them experienced an AE, but these data are too limited to draw conclusions for urogynecological practice.

How does prolapse surgery affect the vaginal wall?

The effects of prolapse surgery on vaginal wall sensibility, vaginal vasocongestion, and sexual function: A prospective single centre study. Lakeman MME, Laan E, Roovers J-PWR, Neurourology and Urodynamics 33:1217–1224, 2014

This prospective single-centre observational study assessed vaginal wall sensibility and vaginal vasocongestion before and after surgery for pelvic organ prolapse. Procedures performed were anterior and posterior native tissue repair as well as sacrospinous fixation. Out of 99 patients asked 29 agreed to participate. These women underwent measurements using a

vaginal combi-probe which enables simultaneous measurement of vaginal vasocongestion using photoplethysmography to assess vaginal pulse amplitude and vaginal sensibility using pulse-generating electrodes. The device was inserted by the women themselves followed by non-erotic and erotic visual stimuli on television. In addition, validated questionnaires including the Female Sexual Function Index, Female Sexual Distress Scale-Revised and SSAQ were administered to assess subjective sexual function. Six months after the intervention 24 of the 29 women (83 %) were available for the second assessment. There was a significant reduction in vaginal vasocongestion and in vaginal wall sensibility in the cranial posterior wall after prolapse surgery. No differences were seen at the other three locations of the vaginal wall, nor were the results associated with a decrease in subjective sexual function as assessed by the questionnaires. Interestingly, sacrospinous fixation combined with anterior colporrhaphy affected vaginal vasocongestion and sensibility most.

Prolapse surgery aims not only to restore anatomical function but also to rectify associated problems such as urinary and fecal incontinence and sexual dysfunction. Previously, subjective outcome measures such as validated questionnaires have been used to assess sexual function. This is the first study to give insight into the changes occurring after vaginal surgery on a physiological level using a vaginal combi-probe. Dissection during prolapse surgery with its consequent damage to nerve endings and blood vessels obviously affects the physiological condition of the vaginal wall. The authors did not see a correlation between the physiological and subjective changes in sexual function. However, the study population was small and the high rate of refusal to participate might have led to selection bias. Despite this, it is worth mentioning that sexuality is based on multiple factors and vaginal wall vasocongestion and vaginal sensibility may play only a minor role in sexual satisfaction. Further studies are needed to analyse the effect on sexuality and functionality in larger cohorts and with longer follow-up. The changes after implantation of a synthetic mesh could also be of great interest to urogynaecologists. Pelvic floor surgeons should be aware that any intervention apparently changes the physiology of the vaginal wall.

D. Ulrich
Department of Obstetrics and Gynecology, Medical University of
Graz, Graz, Austria
e-mail: daniela.ulrich@medunigraz.at