SAUGA NEWSLETTER

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MESSAGE FROM THE EDITOR

Peter de Jong

We live in interesting times, and I am sure most people would love to have less excitement in their lives!!

Recently the RCOG World Congress brought a galaxy of urogynaecological stars to Cape Town, and we had exciting sessions with a number of world experts. Having had IUGA and RCOG congresses back-to-back, it now behoves SAUGA to organize local meetings to continue our education.

I thank the contributors to this SAUGA Newsletter, and trust that the reader will find this edition as interesting and informative as I did.

MESSAGE FROM THE CHAIRMAN OF SAUGA

Zeelha Abdool

Dear Colleagues

Welcome to our 2017 quarterly newsletter. Thank you Kendall and Stephen for excellent well written articles on Interstitial cystitis and Management of complications in Pelvic Floor Surgery. I am excited to share some interesting and clinically relevant new developments in Urogynaecology. Firstly IUGA has introduced two new patient information leaflets, namely, Maternal Pelvic Floor Trauma and Transperineal Pelvic Floor ultrasound scan. I am sure you will find these most useful!

Secondly if you are keen on auditing your urogynaecological surgical outcomes, registering with IUGA surgical database is a sure way to begin. Patient anonymity is maintained and your information is blinded to other clinicians. Yes, this is an IUGA membership benefit.

Be sure to keep an eye on the upcoming SAUGA congress scheduled for 10-12th August 2017 at Inkosi Albert Luthuli Hospital, Durban. Dr Suren Ramphal promises a meeting filled with academic excellence and fun!

We will continue the quarterly newsletter which will be uploaded on the SAUGA website.

Yours Sincerely

Zeelha Abdool

"Lives as if you were to die tomorrow, and learn as if you were to live forever" - Mahatma Gandhi

Trivia Quiz: Who was NATHURAN Godse?

The first correct entry wins an AUDI A3 2017 motorcar, courtesy of Audi Cape Town. (use of Google and Wikipedia is not permitted)

Kendall Brouard

BLADDER PAIN SYNDROME: INTERSTITIAL CYSTITIS IN A NUTSHELL

We all know how challenging it can be to manage patients with Bladder Pain Syndrome, due to the chronicity of the disorder

The definition of Bladder Pain Syndrome / Interstitial Cystitis (BPS/IC) has evolved since Hunner first described the typical urothelial ulcers on cystoscopy in 1918.Most recently in 2009 BPS/IC was defined by the Society for Urodynamics and Female Urology (SUFU) as an unpleasant sensation (pain, pressure, discomfort) perceived to be related to the urinary bladder, associated with lower urinary tract symptoms of more than six weeks duration, in the absence of infection or other identifiable causes.

It was recognised as a major health issue by the WHO at the 1st International Consultation on Incontinence in 1999. Women often delay seeking help, and in addition, the time delay from presentation to a GP to referral to aUrogynaecologist can be 3-7 years.

Women are 10 times more likely to be affected than men and up to 1 in 4 women may be affected when patients are identified on the basis of their symptoms.BPS/IC should always be considered as a differential diagnosis in women with chronic pelvic pain (CPP).

Injury to or dysfunction of the defensive mucosal lining (glycosaminoglycan layer) that covers the urothelium can result in abnormal diffusion of toxins from the urine into the submucosa.Toxins cause sensory nerve activation, neurogenic inflammation, pain and fibrosis. The initial injury is usually multifactoral and can be caused by bacterial cystitis, childbirth, pelvic surgery or urological instrumentation.

The basic assessment should include a careful history, physical examination and laboratory tests looking for symptoms that characterize BPS/IC and exclude other disorders, e.g.recurrent UTI, OABS, urethral stenosis, vulvodynia or endometriosis.

The most common symptoms reported are bladder pain, urinary frequency, urinary urgency and nocturia, however, as few as 7% may initially present with the full complement of symptoms. The time from symptom onset to reporting all symptoms could be as long as 5yrs.Up to 96% of women will have symptom exacerbation with certain foods, typically caffeinated, carbonated or alcoholic drinks and foods with strong flavouring (citrus, peppers).

A bladder diary is useful in establishing baseline voiding values in order to evaluate treatment responses. In patients with BPS/IC, the mean voided volumes are small with a high number of day time voids.

The commonest physical examination findings are bladder neck, suprapubic, levator ani and / or cervical excitation tenderness. The examination should also attempt to exclude vaginitis, urethritis, urethral diverticulum and other potential source of pain or infection.

Urodynamics are not required for the diagnosis of BPS/IC, but can be performed to rule out other diagnoses. Typical findings include low bladder compliance early first sensation and reduced capacity.

Cystoscopy is not considered mandatory for the diagnosis of BPS/IC. It is usually done to rule out other intravesical pathology, especially in patients with haematuria. Typical findings in patients with BPS/IC include glomerulations, mucosal ulcers (Hunner Ulcers) or typical waterfall bleeding during cystoreduction.There is on-going controversy regarding the need for bladder biopsy.

Numerous urinary biomarkers exist, but there is no consensus on which marker has the best diagnostic value. Nitric oxide shows potential, but its identification requires specialized equipment.

Treatment needs to address the underlying pathology (epithelial dysfunction, inflammatory events, and peripheral and central nerve dysfunction) and offer symptom relief. Early identification and treatment is important to prevent disease progression. Unfortunately and it is not possible to determine who will respond to what treatment and there is no proven cure.

The American Urological Association (AUA) published their treatment guidelines in 2011.

First line	Psychological therapy - individual or group therapy, including stress management
	Avoidance of painful bladder flares - genitourinary infections, certain activities, food triggers
	Optimizing underlying medical conditions (IBS, fibromyalgia, depression)
	Behavioural therapy to break the cycle of pain and frequency
Second line	Physiotherapy – not yet standardized and no studies evaluating its effectiveness, useful in patients with concomitant pelvic floor spasm.
	Oral therapy - Pentosan polysulphate (PPS), amitriptyline and cimetidine (hydroxyline)
	Intravesical instillations - dimethylsulfoxide (DMSO), lignocaine and heparin.
Third line	Cystoscopy with hydrodistention under GA
	Hunner's lesion fulguration
Fourth line	Neuromodulation
Fifth line	Cyclosporine A (CyA) Intradetrusor botulinum toxin A
Sixth line	Surgery

Pentosan polysulphate (PPS) is a heparin-like macromolecule that resembles the glycosaminoglycans of the bladder. It restores the normal protective barrier between urine and the bladder. PPS has been extensively evaluated in clinical trials and has shown to result in a 15-67% improvement with a progressive rise in improvement rate with duration of treatment.As PPS takes time to reach its full therapeutic effect, it is recommended that it not be discontinued but additional therapies added as necessary.

Amitriptyline works by inhibiting the cholinergic receptors in the bladder and in so doing counteracts the up regulation of sensory nerves in the bladder that occurs in BPS/IC. At lower doses it results in bladder relaxation, while in higher doses it has analgesic effects. It is recommended to start at the lowest possible dose and titrate up to the dose that provides optimal symptom relief. A 46% improvement of symptoms has been reported.

Hydroxyzine (Atarax) is a Histamine-1 antagonist and works by preventing mast cell activation and degranulation. It is advised that it be taken in the evening due to its sedative effects. The efficacy seen in observational studies has not been confirmed in RCTs.

Cimetidine is a Histamine-2 antagonist. Complete and sustained (up to 2 years) relief of symptoms has been demonstrated in 44% -57% of patients in observational studies.A prospective RCT confirmed a significant improvement.

Dimethylsulfoxide (DMSO) was first discovered in 1866 and used in veterinary medicine. It is the only FDA approved intravesical treatment for IC (50% DMSO FDA approved in 1977). Its mode of action is multifactorial; it has anti-inflammatory, analgesic, muscle relaxant (detrusor), collagen degrading and bacteriostatic properties. The instillation is typically given weekly for 6-8 weeks, followed by a maintenance treatment every 2 weeks for 3-12 months. The 2007 Cochrane review concluded that the data available about DMSO were very limited but with no apparent differences from placebo.

DMSO may cause tempory urothelial injury resulting in additional pain and voiding dysfunction after the initial few doses. This usually dissipates with symptom relief after 3rd or 4th instillation. The urothelial injury allows for better penetration of other agents, therefore DMSO is often used as part of a cocktail with sodium bicarbonate, steroid (hydrocortisone), heparin or local anaesthetic. A 61% response rate to DMSO, heparin, bupivicaine and hydrocortisone has been reported. No combinations have been found to be more effective than others.

Heparin is a highly sulfinated glycosaminoglycan which works by enhancing the barrier effects of bladder surface mucin thereby decreasing the effects of noxious agents in urine on underlying sensory nerves. It can be used to supplement oral PPS or in an intravesical cocktail. Re-establishing the GAG layer takes time so results may not be evident until after one year of treatment in moderate cases and two years in severe or longstanding cases. The evidence for it use is mostly based on several observational trials which show a good clinical response in up to 56% of patients.

Intravesical instillation of Lignocaine has been shown to be beneficial in the management of pain and irritative symptoms of BPS/IC. It is given in a wide array of formulations and concentrations. Unfortunately relief rarely lasts longer than 2 weeks. An implantable lignocaine eluding device (LiRIS – lignocaine releasing intravesical system) is currently being researched (phase 2 trials underway) with initial positive results. Lignocaine can be used alone or in cocktail with NaBic. Better results have been shown when used in combination with an alkalizing agent as it allows for better urothelial penetration.

Cystoscopy with hydrodistention under general anesthesia serves as a diagnostic tool and treatment option for BPS/IC. Cystoscopy under anaesthesia with short-duration (less than 10 minutes) and low-pressure (60 to 80 cm H20) hydrodistension is indicated if1st& 2nd line treatments fail to improved symptoms or QOL or if presenting symptoms suggest severe disease.Observational studies have shown that this results in clinically significant relief of symptoms for a subset of patients. Unfortunately the relief declines over time with a 30% to 54% efficacy at one month declining to 0% to 7% after six months.

Hunner's lesion fulgurationcan be performed with laser, electrocautery and/or injection of steroid. An observational study using electrocautery showed complete pain relief in 100% of patients (follow-up of 2 - 42 months). Two observational studies using Nd:YAG lasers showed 80 - 100% relief from pain, urgency, and nocturia (follow-up intervals of 10 - 23 months).Another observational study using corticosteroid injections showed that 70% of patients reported improvement with an average improvement duration of 7 - 12 months. Lesion treatment is one of the few IC/BPS therapies resulting in improvement measured in months following only a single treatment.

Neuromodulation is not currently FDA-approved for IC/BPS, however many patients meet the frequency/urgency indication for which it is approved.Several small studies have shown that Sacral Nerve Stimulation is safe and effective in the management of refractory BPS with good long term results. Medical therapy should continue during SNS. Posterior tibial nerve stimulation has not been found to be effective in the treatment of patients with BPS.

The finding of autoantibodies in many patients with BPS/IC prompted the use Cyclosporine A (CyA).Studies have demonstrated CyA to be superior to PPS in treatment of IC, however adverse events are common with the potential for serious adverse events (immunosuppression, nephrotoxicity).

As there are no placebo controlled studies it is not possible to determine true effect of Intradetrusor botulinum toxin A (BTX-A). Numerous observational studies report an efficacy of 20 to 85% at 3 monthswith a return to baseline symptom levels over time. BTX-A is classified as fifth-line treatment due to the nature of adverse events; abdominal straining to void, large post-void residual or need for intermittent self-catheterization.

Surgery is only indicated in carefully selected patients for whom all other therapies have failed to provide adequate symptom control and QoL. Pain can persist even after cystoplasty or cystectomy.

CONCLUSION

The AUA guidelines are a useful tool to use when managing patients with BPS/IC. To a large extent the treatment offered also depends on availability, especially in the public sector. Multiple, simultaneous treatments may be considered and ineffective treatments should be stopped only once a clinically meaningful interval has elapsed. Pain management should be continually assessed because of its importance to QoL.

BPS/IC is probably more common than we think and as a result of symptom evolution, it is often a challenging diagnosis to make. A multidiscplinary approach is essential to comprehensive management. Unfortunately there is no quick solution and patients should be counselled in this regard in order ensure realistic expectations and to improve compliance with prolonged courses of treatment.

The SAUGA website has recently been refreshed with a new look and feel - visit http://qa.sauga.e2.co.za to review! We encourage you to continue supporting SAUGA via membership registration. To those who have already renewed their registration - a huge thank you!!!

Pelvic Floor Foundation of SA:
Workshop 9 - 10 June 2017. Go to www.urogynaecology.co.za for further details or contact Jana on (021) 426 9003

SAUGA Congress 10 - 12 August 2017 at Inkosi Albert Luthuli Hospital, Durban, under the chairman Dr Suren Ramphal

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MANAGEMENT OF COMPLICATIONS IN PELVIC FLOOR SURGERY

Introduction

Surgical complications are an unfortunate reality for every surgeon. When dealing with issues such as quality of life, as we do in pelvic floor reconstructive surgery, a surgical complication is often devastating for the woman. In urogynecology, surgical complications are unfortunately relatively common. In the Optimal trial, comparing two surgical approaches to apical vaginal prolapse, the incidence of serious adverse events was 16% in both groups. Reducing complications has a number of essential components. The most obvious strategy is that the surgeon is well prepared and has the correct training for the procedure. The other issue is creating the right expectation when counselling the patient before the operation. Finally, one has to optimize the intra and post-operative care of the patient.

Pre-operative assessment

The first place that one starts in avoiding a complication is performing a thorough preoperative assessment. This involves focusing on the basics and ensuring that the appropriate investigations are performed. A good example is the simplicity of performing a bladder diary. In a patient presenting with stress urinary incontinence, nocturia, urgency and urgency incontinence this exercise may pick up a patient who has severe diabetes insipidus and requires the input of a physician rather than surgery. The same example can be used in a patient who may need a urodynamic investigation prior to surgery for stress incontinence to determine the cause of her incontinence.

Procedure selection

There are a number of options for women with incontinence and prolapse and selecting an appropriate operation for the individual patient will also optimize the outcome. As an example; for women with stress incontinence, a TVT retropubic, Transoburator or Single Incision sling are all reasonable options, but they each have differing efficacies and complications. It is even more complex when looking at vaginal vault prolapse where the surgeon has the option of a vaginal native tissue procedure; a vaginal mesh or a laparoscopic, robotic or open sacrocolpopexy. Each of these have varying success and complication rates. A systematic review by Diwadkar looking at complication and re-operation rates of apical vaginal prolapse surgical repair, showed that the total re-operation rate differed substantially for the groups, including traditional repair, sacrocolpopexy and mesh kits. The re-operation rate for prolapse recurrence was 3.9% in the group having traditional vaginal repair, 2.3% in the group having a sacrocolpopexy and 1.3% in the woman having a mesh kit. With that data, it appears that the mesh kit is the best operation but one has to think again when considering the re-operation rate for complications. This was 1.9% in the group having a traditional repair, 4.8% in the sacrocolpopexy group and 7.2% in the mesh kit group. This large difference was demonstrated again in a randomized controlled trial by Maher where they compared laparoscopic sacrocolpopexy to Total Vaginal Mesh (Prolift). Re-operation rate in the Prolift group was 22% versus only 5% in the laparoscopic sacrocolpopexy group.

Surgical experience

In avoiding complications, it is essential to appreciate that surgical volume is closely related to surgical results. This is clearly demonstrated in data from surgeons performing hip arthroplasty. In a study looking at dislocation and revision rates, complications decreased substantially in surgeons who were performing more than 60 to 80 procedures per year. This principle is clearly made by Malcolm Gladwell his book 'The tipping point' where

excellence in many ereas including sport, music and business is associated with 'practice time'. There is no reason to suspect that surgery should be any different.

Urinary tract injuries

One of the most important complications in pelvic floor reconstructive surgery is that of the urinary tract. Data from the US National Hospital Discharge Survey showed that of all the non-obstetric bladder injuries, 21% were associated with surgery for incontinence and 17% with surgery for pelvic organ prolapse. Regarding ureteric injury, almost 4% of the injuries were associated with prolapse surgery and interestingly this is comparable to the injuries occurring during endometriosis surgery.

Knowledge of the anatomy of the bladder and ureter is essential and in complex abdominal cases, intra-operative identification of the ureter is an excellent principle for safe surgery. During vaginal surgery it is often not possible to identify the ureter, but an understanding of the anatomy of the bladder neck and trigonal area will enable one to avoid ureteric kinking when performing a fascial plication. In Canada, ureteric injuries account for 17% of non-obstetric legal actions against gynecologists. Following pelvic surgery, it is therefore prudent to perform a routine cystoscopy and check for urine efux from each ureteric orice.

Surgeons should always be alert for the signs of possible bladder injury. The intra-operative de velopment of hematuria should prompt further investigation, including a cystoscopy. If the bladder has been breached and the proximity of the injury is close to the ureter, placement of a ureteric catheter prior to suturing the defect is indicated. At laparoscopy, the presence of gas in the catheter bag is an indicator of a bladder injury.

When performing a mid-urethral sling for stress incontinence, the bladder is also at risk for injury. Failure to recognize a bladder perforation at insertion of either TVT or ToT, can lead to irritative urinary symptoms, pelvic and urethral pain, fistula and recurrent UTI. When performing the TVT-retropubic approach, I usually inject 180ml suprapubically on each side of the midline, prior to placing the sling. It is also important to keep the tract of the trocar inserter device as close to the pubic bone as possible and to exit just above the upper ridge of pubic symphysis.

The pelvic surgeon also needs to be aware of the possibility of urethral perforation. This is most common during the placement of a mid-urethral sling and can occur in up to 0.5% of cases. If this does occur the urethra should be close in layers and the sling should not be placed.

Bowel injury

Bowel injury is potentially a disastrous complication associated with pelvic surgery and it has a mortality rate of around about 3.6%. Absolute care and vigilance is essential, especially when performing laparoscopic adhesiolysis during laparoscopic sacrocolpopexy. An unrecognized injury is associated with the worst outcomes. When performing a vaginal repair of either a rectocele or enterocele or even following a sacrospinous xation, it is important to perform a rectal examination to check that there has been no inadvertent suture placement. An undiagnosed suture in the rectum has the potential to cause a fistula and other pelvic sepsis, and should be removed.

Hemorrhage

Acute bleeding is an obvious risk during pelvic surgery. For example at laparoscopic sacrocolpopexy if care is not taken to perform a meticulous dissection of the sacral promontory, there is the potential for injury to the sacral venous plexus which can bleed profusely. In an obese woman, the retroperitoneal fat pad may disorientate the surgeon with the potential for inadvertent damage to the Inferior Vena cava. When performing a vaginal sacrospinous fixation, the pudendal artery is also at risk.

In addition to acute hemorrhage at pelvic surgery there is also the potential for the formation of hematoma and these can occur following prolapse operations and mid-urethral slings. These usually present with post-operative pain, voiding dysfunction and a fall in hemoglobin. In nearly all cases these can be managed expectantly.

Vaginal mesh complications

Vaginal mesh procedures have been associated with numerous complications including rectal erosions, bladder erosions and pain. There has been significant litigation associated with vaginal mesh procedures. The most concerning complication associated with mesh are the pain and dyspareunia related symptoms. The cause of this is either related to the mesh device itself resulting in contraction, shrinkage or with the actual design of the mesh. The surgical technique may also lead to pain due to excessive tension, infection, chronic inflammation, granuloma formation and incorrect placement of the arms with impingement of the pelvic nerves. Mesh-related pain is a team effort including a physiotherapist, a high volume pelvic floor surgeon and a pain specialist.

Voiding dysfunction

This is a common problem following pelvic floor reconstructive surgery. It occurs most frequently after the placement of a mid-urethral sling. The important principle is to be vigilant for failure to void in the patient who has had a sling. If the patient is unable to void at 48 hours, the tape should be loosened. In the case where she able to void but has high residuals i.e. between 150 and 500 ml, one should wait a few days. It should be loosened within one week if the residuals remain high. It is impossible to loosen a sling if one waits longer than seven days.

Woman presenting with long-term voiding dysfunction following a sling procedure require a more extensive work up. This includes urodynamics, to assess flow rate and detrusor pressures. A perineal ultrasound is also useful in these patients, where one is able to measure the distance between the pubic bone and tape. If this is less than 8 mm it would suggest that the tape is too tight.

Managing expectation

The most important aspect of reconstructive surgery is creating a realistic expectation with the patient regarding potential outcomes. This was highlighted by Kentonin a paper on patient preparedness before surgery. They highlight a number of important points to be emphasized in the informed consent discussion. This includes alternatives to surgery, the purpose of surgery and the risks of surgery. The chance of infection, bleeding and bladder and bowel injury, new overactive bladder symptoms and voiding problems should always be mentioned. They specifically mentioned to the patient that it is normal to be discharged from hospital with a catheter.

Conclusion

As a surgeon, pelvic oor reconstructive surgery has the potential to improve the quality of life women with a broad range of problems. In every operation however, there is the potential for complications. Due diligence in pre-operative counselling and work-up, vigilance intra and post-operatively and good surgical training will go a long way in optimizing outcomes.

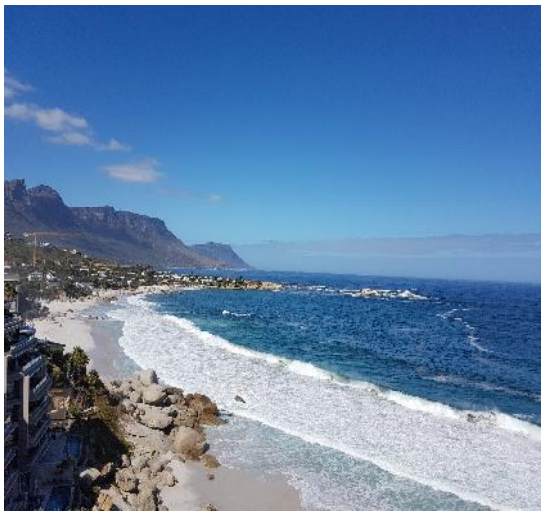
References

Available on request

Thanks to Hennie Cronje for these stunning pictures

The New Christiaan Barnard Memorial Hospital Urogynaecology unit was recently inaugurated. The picture shows Dr Piet Kruger welcoming the first patient.

PHOTO GALLERY



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