Brief Communication

How to Approach Common Urogynaecological Problems?

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Urogynaecology is dedicated to the treatment of women with pelvic floor dysfunction such as urinary or fecal incontinence and prolapse (bulging or falling) of the vagina, bladder and/or the uterus. Pelvic organ prolapse simply means displacement from the normal position. On average, 11% of women will undergo surgery for this condition. Pelvic organ prolapse quantification system (POP-Q) is an objective, site-specific system for describing the anatomic position that can be used to determine the stage of the prolapse. Urinary incontinence (leakage of urine) is a very common condition affecting at least 10-20% of women under age 65 and up to 56% of women over the age of 65. The most common subtypes of urinary incontinence are (1) stress urinary incontinence (SUI) ; (2) urge urinary incontinence (UUI) ; and (3) mixed urinary incontinence (MUI). Patients presenting with symptoms of pelvic organ prolapse or incontinence should undergo a thorough medical evaluation consisting of a targeted history (include bladder diary or voiding diary), physical examination, urinalysis and urine culture, and postvoid residual volume (PVRV) by pelvic ultrasound. Treatment options for patients with pelvic organ prolapse and urinary incontinence are nonsurgical (lifestyle interventions, pelvic floor muscle rehabilitation, and pessary placement) and surgical management.

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One of the most common problems facing women is pelvic floor dysfunction, which affects approximately 50% of all women-the majority of whom do not seek professional help.[1] Pelvic floor dysfunction may cause urinary incontinence, fecal incontinence, vaginal pain or discomfort and abdominal discomfort. Many women experience significant chages in daily activities and even self-identify because of these conditions.

The field of Urogynaecology (a subspecialty within Obstetrics and Gynaecology) is dedicated to the treatment of women with pelvic floor dysfunction such as urinary or fecal incontinence and prolapse (bulging or falling) of the vagina, bladder and/or the uterus.

Urinary incontinence (leakage of urine) is a very common condition affecting at least 10-20% of women under age 65 and up to 56% of women over the age of 65.[2] While incontinence also affects men, it occurs much more commonly in women.[3]

Pelvic organ prolapse simply means displacement from the normal position. When this word is used to describe the female organs, it usually means bulging, sagging or falling. It can occur quickly, but usually happens over the course of many years. On average, 11% of women will undergo surgery for this condition.[4] Many classifications use terms that are poorly defined and grading systems that have not been validated with respect to reproducibility or clinical significance. Pelvic organ prolapse quantification system (POP-Q) is an objective, site-specific system for describing the anatomic position that can be used to determine the stage of the prolapse.[5]

Prolapse and incontinence frequently occur together. Both conditions are believed to result from damage to the pelvic floor after delivering a baby. Other possible factors in the development of prolapse and incontinence are very heavy lifting on a daily basis (as some paramedics and factory workers might do) chronic coughing, severe constipation and obesity.[6,7]

Initial evaluation

Patients presenting with symptoms of pelvic organ prolapse or incontinence should undergo a

thorough medical evaluation consisting of a targeted history, physical examination, urinalysis and urine culture.

The history focuses on the duration and characteristics of symptoms; the patient's perception of their effect on her quality of life; the number and type of protective devices used; previous surgery, radiation, disease, or injuries; bowel habits; customary fluid and food intake; recent use of medications such as alpha-adrenergic blockers; previous treatments and expectations of current treatment. In addition, it is advisable to ask patients to complete a bladder diary or voiding diary.

A properly conducted physical examination allows the examiner to judge the length and thickness of the urethra, search for congenital anomalies or pelvic masses, evaluate any damage related to post-menopausal atrophy or organ prolapse, and gain a sense of the patient's neurologic and functional status. Perineal muscle tone can be directly assessed by asking the patient to contract and then relax her muscles around the examiner's gloved finger. The cough stress test provides objective demonstration of urine loss: When the patient's bladder is fairly full, depress the perineum with gloved fingers, palm up, and ask the patient to cough vigorously. Instantaneous leakage suggests stress incontinence; delayed leakage or persistent dribbling after the cough are signs of detrusor instabillity.

In case of pelvic organ prolapse, physician should evaluate by POP-Q System for describing the anatomic positions that can be used to determine the stage of the prolapse. In addition, an accurate measurement of postvoid residual volume (PVRV) should be obtained by pelvic ultrasound.

Management of pelvic organ prolapse

Treatment options for patients with pelvic organ prolapse are nonsurgical and surgical management. Nonsurgical management includes lifestyle interventions, pelvic floor muscle rehabilitation, and pessary placement.[8] The surgical management aim at restoring physiological anatomy of the vagina, as well as preserving lower urinary tract, bowel, and sexual functions. The choice of the optimal treatment depends on the patient's age, symptoms, prolapse grade or severity, quality of life impairment, general health status, and prior prolapse surgery. In addition, the physician's skill and experience are also important.

Pessary is a valuable conservative management option. It appears to be safe and acceptable in particular elderly patients with comorbidities. The type of pessary depends on the direction and extent or staging of the protruding organ.[8,9]

Anterior vagina wall prolapse is most frequently treated by anterior colporhaphy. There are surgical series reported prolapse recurrence rate as high as 30-40% after follow-up of more than 2 years.[10] Colposuspension and paravaginal defect repair are more technically challenging.

Regarding the surgical treatment of apical vaginal prolapse, vaginal hysterectomy has long been used with high success rates. Sacrohysteropexy or other uterine preservation procedures might be options in cases of young patients who want to maintain their fertility. Vaginal vault prolapse is a late complication of hysterectomy. From previous studies, the abdominal sacral colpopexy and the vaginal sacrospinous colpopexy are equally effective in the treatment of vaginal vault prolapse.[11]

For the posterior vaginal wall prolapse surgery, the surgical technics depend on the specialist who performs the procedures. Although posterior vaginal wall repair may be better than transanal repair in the management of rectoceles in terms of recurrence of prolapse.[12] The problem of postoperative bowel and sexual dysfunction should be considered. The posterior intravaginal sling is a new tension-free needle suspension technic. It provides a safe and efficacious treatment for posterior vaginal vault prolapses. Long-term results are required to assess the functional results and recurrence rate of this technic.

Stress urinary incontinence (SUI)

Several types of urinary incontinence have been described in literature. The most common subtypes of urinary incontinence are (1) stress urinary incontinence (SUI) ; (2) urge urinary incontinence (UUI) ; and (3) mixed urinary incontinence (MUI).[13] This chapter confines only in stress urinary incontinence. Patients with symptoms of SUI complain of involuntary leakage on effort or exertion, or on sneezing or coughing. These activities induce a temporary increases in abdominal pressure which overrides the intra-urethral pressure with subsequent loss of urine. SUI can be due to bladder neck/urethral hypermobillity and/or to intrinsic sphineter deficiency. In patients with hypermobillity, the bladder neck and/or urethra descend outside the abdominal cavity during stress, thereby preventing urethral compression and thus preventing an increase in intra-urethral pressure. In patients with intrinsic sphincter deficiency, the intrinsic urethral

sphincter mechanism is damaged and therefore cannot sufficiently maintain urethral tone during stressful activities.

Approximately 1 in every 4 women has urinary incontinence. SUI is the most common type of incontinence : about half of all incontinent women suffer from pure SUI symptoms. Moreover, since around one third of all incontinent women have MUI symptoms, it seems that the majority of women with incontinence leak urine during stress activities. Whereas pure SUI is most prevalent in younger and middle-aged women, MUI becomes the most prevalent type of incontinence in older women.

The etiology of SUI is still poorly understood but age, pregnancy/childbirth/parity and obesity are significant risk factors. There is still a lot of uncertainty whether other factors such as smoking, constipation and the menopause/estrogen deficiency also increase the risk of developing SUI.[6]

SUI can be very bothersome for the women affected. Approximately half of all women with SUI are slightly bothered and one third are moderately to severely bothered. This is not surprising as these women experience limitations in performing daily activities which may lead to incontinence, such as lifting heavy objects and playing sports. This can be in particular disturbing for young and middle-aged women who still have an active lifestyle. Because of the fear of urine leakage and odour, they limit or avoid social and/or sexual relationships. It is without doubt that this significantly reduces the overall quality of life of these women. Despite this, many women with SUI suffer in silence. It seems that only 25-33% of women with SUI symptoms consult a physician with their problem.[14,15] This is because women with SUI feel ashamed and embarrassed about their condition. Many also believe that SUI is a natural part of aging and that there are no effective and/or safe treatments available excepts surgery of which they are afraid. Therefore, women should be educated in all aspects of SUI in order to motivate them to consult a physician once incontinence affects their quality of life.

In the diagnostic work-up of women presenting with complaints of urinary incontinence, it is important to differentiate stress from urge symptoms. This can be done by questioning the patient related to the type of complaints. If incontinence occurs during exercising such as walking up the stairs, sneezing, coughing and/or laughing, it is more likely that the patient has SUI. If leakage is predominantly related to urgency (e.g. with hand washing or key in the door), the patient probably suffers from UUI. Office-based tests such as the cough and/or pad stress test can be used to provide further evidence in favour of the diagnosis of SUI and/or to quantify the amount and, therefore, the severity of leakage.

Once it is suspected that the patient has SUI based on these assessments, non-invasive conservative and/or pharmacological treatment is usually initiated. Any conservative treatment should start with advice on lifestyle such as fluid management, weight loss (in heavy patients) and stopping smoking.[16] The most frequently administered conservative treatment is pelvic floor muscle rehabilitation.[16] The major drawback is the fact that it takes some time before patients experience the benefit of these exercises and that compliance with performing them decreases over time. So far there are unfortunately no globally developed and/or widely approved pharmacological treatments available. Although some drugs are used off-label e.g. a_1- adrenoceptor agonists, tricyclic antidepressants and estrogens,[17,18] there is no or limited evidence from randomized controlled trials showing their efficacy in SUI and they can sometimes be associated with considerable side effects (such as increased risk of cardiovascular disease, and breast or endometrial cancer with estrogens, and increased risk of haemorrhagic stroke with phenylpropanolamine).

A new pharmacological therapy for SUI will become available in the near future. Duloxetine is a potent and balanced dual serotonin and norepinephrine reuptake inhibitor which enhances urethral rhabdosphincter muscle contraction and as such may help to resist sudden increases in abdominal pressure during stress activities.[19,20] The several studies concluded that duloxetine 40 mg twice daily is a new and promising pharmacological treatment approach for women with SUI.[21-24]

Patients who fail conservative and/or pharmacological therapy or who have severe SUI, should receive specialised diagnostic work-up before surgery is performed. Filling cystometry can be used to distinguish between SUI and UUI. If a patient experiences involuntary leakage of urine during e.g. cough-induced increased abdominal pressure in the absence of involuntary detrusor contractions, there is urodynamic evidence for SUI. If involuntary detrusor contractions occur during bladder filling, a diagnosis of UUI is most likely. Only patients with SUI should undergo surgery. The Q-tip test can be used to assess urethral hypermobility. This is needed because some surgical interventions provide better outcomes in hypermobillty

while other are preferred for intrinsic sphincter deficiency. There are 3 types of surgical interventions available with increasing rates of invasiveness, efficacy and complications (such as de novo detrusor overactivity, voiding dysfunction):

1. colposuspension (still considered to be the gold standard surgical intervention in hypermobility), eg. Burch colposuspension,[25] laparoscopic colposuspension.[26]

2. sub-urethral sling procedures (of which the classical slings are indicated for patients with intrinsic sphincter deficiency whereas newer low tension tapes such as tension-free vaginal tape (TVT),[27,28] trans obturator tape (TOT)[29,30] are mainly used in hypermobillity)

3. urethral bulking agents or injectables (most suitable for patients with intrinsic sphincter deficiency) of which the GAX-collagen has been most intensively studied.[31,32]

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