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What are and how could the Urogynecology related questionnaires improve the Urogynecology practice?

Urogynecology is the field concerned with urinary and pelvic floor health in women. In urogynecological studies, assessment of questionnaire plays an important role in providing subjective information about patients' symptoms, effects, and quality of life. The questionnaires help physicians and researchers to understand patients' needs, assess disease severity and impact, and assess treatment effectiveness. However, there are several limitations and challenges in assessing questionnaire data, including subjectivity, memory bias, and limitations influenced by cultural factors.

Questionnaire studies in urogynecology have shown many advances in method and application over the past few decades. These advances include the development and improvement of questionnaire tools, innovations in research design, improvements in data analysis methods, and a more exploration of gender differences and cultural factors.

A lot number of questionnaire instruments specifically for urogynecological research have been designed. They were used to assess women's subjective symptoms, quality of life, and treatment outcomes. Some of these questionnaire tools have been widely used and have been verified and validated with high reliability and validity. The most commonly used ones are: Overactive Bladder Questionnaire (OAB-q), Incontinence Impact Questionnaire (IIQ), International Consultation on Incontinence Questionnaire (ICIQ), Urogenital Distress Inventory (UDI), Female Sexual Function Index (FSFI), King's Health Questionnaire (KHQ) etc.

Innovations in research design were also an important advance in questionnaire studies in women's urology. Over the past 30 years, researchers have introduced many innovations in study design to improve the reliability and applicability of research. The use of randomized controlled trials (RCTs) allows researchers to assess the impact of different interventions on women's urological health. The long-term follow-up studies allows obtaining more comprehensive data through multiple questionnaires and interviews, thereby revealing changes in women's urinary symptoms, function, and related factors. In addition, more attention has been paid to the relationship between the urogynecological diseases and other health problems, such as general gynecological disorders, reproductive and sexual dysfunction, etc. By integrating the urological symptoms into a broader health framework, we can better understand and address issues of the women's life quality.

With the advancement of technology and statistic tools, some data analysis methods have been applied to the questionnaire study of urogynecology including factor analysis, regression analysis, survival analysis, etc. These methods can help researchers explore and explain the relationship between women's urological health and other variables, such as age, lifestyle, and other disease risk factors.

Gender differences and cultural factors are also gradually being paid attention to in the study of women's urology questionnaire. Women experience differences in urological disorders and symptoms compared to men. In addition, cultural factors are also considered to play an important role in the urogynecological research. Different cultural backgrounds and values are suspected to affect women's perception, assessment and treatment of urological health. Therefore, cultural factors in questionnaire studies were considered and established to enhance a more comprehensive understanding on the issue of the female life quality.

In conclusion, questionnaire studies in urogynecology have progressed significantly in method and application. However, the effort to improve the settings of the questionnaire studies is still on going. In the future, we can expect more innovations and advancements to provide and improve the urogynecological questionnaire setting, thus to improve scientific support for formulating relevant policies and clinical practice guidelines.

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Why it is necessary to include ultrasonography scanning in Urogynecology practice?

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Ultrasonography scanning is the most widely utilized medical imaging tool generally and is currently the most popular in Obstetrics and Gynecology. Nowadays, pelvic ultrasound has been accepted by many experts and societies as the first-line imaging tool to evaluate pelvic floor dysfunction. The main indications for pelvic floor ultrasound include urinary incontinence, pelvic organ prolapse, obstructed defecation, anal incontinence, and postoperative complications.

In stress urinary incontinence, the commonest observations include a rotatory descent of the bladder and urethra, the opening of the retrovesical angle, rotation of the urethra by 60° or more, and funneling of the internal urethral meatus. However, these findings can not diagnose urodynamic stress incontinence.

For pelvic organ prolapse, ultrasound images are recommended to be obtained after emptying the bladder and on maximal Valsalva of at least 6 seconds duration. However, clinical assessment for pelvic organ prolapse yields false-negative results at times, especially for the uterus, which takes more time to descend than the bladder or rectal ampulla.

Ultrasound is the only modality capable of confirming the presence or absence of synthetic suburethral tapes and polypropylene meshes, which are easily visible as hyperechogenic structures. Although some of the ultrasound findings may only be incidental or supplementary to the patient's symptoms, ultrasound benefits for investigating women with pelvic floor dysfunction and those following pelvic floor surgeries. It is anticipated that standardization in terminology, measurement techniques, and reporting can be established in the years to come.

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How to manage the stress urinary incontinence women in geriatric?

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Stress urinary incontinence is a common condition among women in geriatric populations. It occurs when the muscles that control urination weaken, leading to involuntary urine leakage during physical activities such as coughing, sneezing, or laughing. Here are some strategies that can help manage SUI in women in geriatric populations:

Pelvic floor exercises: Pelvic floor exercises, also known as Kegel exercises, can strengthen the muscles that control urination. Encourage women to do these exercises regularly to help improve bladder control.

Dietary modifications: Encourage women to reduce their intake of caffeine, alcohol, and spicy foods, which can irritate the bladder and worsen SUI symptoms. Encourage them to increase their intake of fiber to prevent constipation, which can also contribute to SUI.

Scheduled voiding: Encourage women to develop a routine for urinating at regular intervals throughout the day, even if they do not feel the urge to go. This can help reduce the likelihood of bladder leakage and increase bladder capacity over time.

Incontinence products: In some cases, women may benefit from using incontinence products, such as pads or absorbent underwear, to manage SUI. These products can help prevent embarrassment and improve quality of life.

Medications: In some cases, medications such as anticholinergics or alpha-adrenergic agonists may be prescribed to help improve bladder control. However, it's important to weigh the potential benefits against the potential side effects and risks of medication use, particularly in geriatric populations.

Surgery: Surgical interventions, such as middle urethral sling procedures, may be recommended to treat SUI in women who have not responded to other interventions.

Overall, the best approach to managing SUI in women in geriatric populations is to develop an individualized plan of care that takes into account the patient's specific needs, preferences, and overall health status. Working with a healthcare provider, a geriatrician, or a urogynecologist can help ensure that women receive the most appropriate and effective care for their condition.

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GSM, should it be treated by estrogen or laser?

停經後生殖泌尿道症候群，應該用雌激素或陰道雷射治療？

The genitourinary syndrome of menopause (GSM) is a new term that describes various menopausal symptoms and signs including not only genital symptoms (dryness, burning, and irritation), and sexual symptoms (lack of lubrication, discomfort or pain, and impaired function, but also urinary symptoms (urgency, dysuria, and recurrent urinary tract infections). The terms *vulvovaginal atrophy* and *atrophic vaginitis*, which were generally used until recently, had a limitation because they did not cover the full spectrum of symptoms and did not imply that the symptoms are related to a decreased estrogen level in menopause.

The first-line treatments for GSM are vaginal lubricants and moisturizers. Vaginal estrogen has been demonstrated to be effective in alleviating the symptoms of GSM. The mechanism of action includes a lower vaginal pH, an increased percentage of superficial cells with a lower percentage of parabasal cells, and a greater number of vaginal lactobacilli. However, the adherence rate ranged from only 52% to 74%. Of note, the evidence regarding the long-term effects of vaginal estrogen use on endometrial safety is currently limited. Vaginal laser therapy is a relatively new treatment, which creates microtrauma, promoting the thickening of epithelium, blood vessel formation, and collagen synthesis. A meta-analysis [1] that incorporated 3 randomized clinical trials (RCTs) suggests that CO₂ laser therapy was superior to sham treatment in terms of satisfaction, Female Sexual Function Index (FSFI), Vaginal Analog Scale (VAS), and Urogenital Distress Inventory (UDI-6) scores. More recently, a meta-analysis [2] that summarized data from 3 RCTs before 2020 reported that there was no clinical difference between energy-based treatments and hormonal therapy.

Ref.

[1] Khamis Y, Abdelhakim AM, Labib K, et al. Vaginal CO₂ laser therapy versus sham for genitourinary syndrome of menopause management: a systematic review and meta-analysis of randomized controlled trials. *Menopause*. 2021;28(11):1316-1322.

[2] Li F, Picard-Fortin V, Maheux-Lacroix S, et al. The efficacy of vaginal laser and other energy-based treatments on genital symptoms in postmenopausal women: a systematic review and meta-analysis. *J Minim Invasive Gynecol*. 2021;28(3):668-683.

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The management of OAB in elderly women

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Overactive bladder syndrome (OAB) is a common disorder in women, especially in postmenopausal women. In this lecture, I will discuss the symptoms, diagnosis, evaluation tools (such as bladder diary, questionnaires, urodynamic studies, and sonography), treatments (such as antimuscarinics, beta 3 agonist, Botox intradetrusor injection), and clinical outcome. In addition, the treatment-related effects will be discussed. The above topic will be focused on the elderly women.

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The role of Urodynamics in POP surgery

尿動力學檢查在骨盆臟器脫垂手術的角色

Pelvic organ prolapse (POP) and lower urinary tract symptoms (LUTS) often coexist as they may have a similar underlying pathophysiology. Up to 96 % of women with POP report LUTS with mixed urinary incontinence predominating. Urodynamics (UDS) involve objective assessment of the function and dysfunction of the urinary tract. Preoperative UDS may help decision making regarding combined stress incontinence surgery in women with coexisting stress urinary incontinence (SUI) or in those without SUI.

Voiding dysfunction POP surgery is a longstanding concern and is distressing for the surgeon as well as the patient. In females, voiding dysfunction may occur if the detrusor muscle cannot maintain effective contraction, if the urethra fails to relax to lower the urethral resistance or if there is failure in synchronizing these actions, all of which lead to detrusor sphincter dyssynergia. In POP, kinking of the urethra in patients with cystocele or direct compression of the urethra by the prolapsed organ causes bladder outlet obstruction (BOO). A potential complication of iatrogenic postsurgical obstruction leading to voiding dysfunction can be anticipated. Excessive elevation of the bladder neck during colposuspension or undue tension applied to a sling are the most likely causes of postoperative voiding difficulty. Damage to motor parasympathetic nerves during surgery can possibly lead to impaired detrusor contraction, resulting in detrusor overactivity or detrusor underactivity (DUA).

POP and overactive bladder (OAB) may occur by chance together, but epidemiological studies support a link between OAB and prolapse. The cause of OAB and Detrusor overactivity (DO) is not fully understood, but theories relate to myogenic, neurogenic, and obstructive elements. The most commonly accepted pathophysiology when prolapse is involved is of the increased bladder outlet obstruction or resistance. This is supported when the correction of POP improves voiding function, which is associated with a reduction in OAB. Mid-urethral sling (MUS) insertion at the time of POP significantly decreases the rate of post-operative de novo OAB symptoms. The lack of anatomical success of the mesh-based reconstructive surgery is a risk factor for the development of de novo OAB symptoms. DO following POP surgery with or without MUS is a long-standing distressing concern for surgeons and patients alike. The mechanisms by which post-operative DO can develop are not fully understood. Questions arise on how to pre-operatively evaluate preexisting DO and predict the possibility of de novo DO development so that it would allow for an improved counseling and the choice of treatment.

Certain urodynamic variables may identify patients at risk of persistence or development of postoperative stress urinary incontinence, urgency/urgency incontinence and voiding dysfunction (VD). This could help patients accurately assess the risks and benefits of surgery and facilitate optimal preoperative counselling directed towards appropriate patient care.