Maturitas xxx (xxxx) xxx–xxx

Contents lists available at ScienceDirect

Maturitas

journal homepage: www.elsevier.com/locate/maturitas

Current management of pelvic organ prolapse in aging women: EMAS clinical guide

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ARTICLE INFO

Keywords:
Pelvic organ prolapse
Urinary incontinence
Aging
Management

ABSTRACT

Management of pelvic organ prolapse (POP) is a common and challenging task. Nowadays older women are more active than they were in the past, and the development of POP disrupts quality of life and impairs social and personal activities. The menopausal transition is a time of vulnerability, during which many women start experiencing symptoms and signs of POP. The role of hormonal changes or of hormonal therapies in influencing the development or progression of POP has been explored extensively. The management of POP requires considerable clinical skills. Correct diagnosis and characterization of the prolapse and an identification of the individual woman's most bothersome symptoms are the hallmark of appropriate initial management. Therapy is multimodal and often multidisciplinary, and requires a competence in pelvic medicine and surgery. The integration of hormonal, non-hormonal and surgical strategies is important and needs to be adjusted to changing circumstances on an individualized basis. When surgery is required, optimal management requires clinicians who are familiar with the advantages and disadvantages of all the available strategies and who are able to use these strategies in a tailored manner. Complex cases should be sent to specialist referral centers. Management of POP should be integrated into the practice of healthcare professionals dealing in menopause.

1. Introduction

1.1. Definitions, epidemiology and clinical picture

Pelvic floor disorders include pelvic organ prolapse (POP), urinary incontinence (UI), fecal incontinence, pelvic pain and sexual dysfunction.

POP is clinically defined as *"the descent of one or more of the anterior vaginal wall, posterior vaginal wall, the uterus (cervix) or the apex of the vagina (vaginal vault or cuff scar after hysterectomy)"* [1]. The incidence and prevalence of POP have not been systematically investigated. While it is estimated that nearly 50% of women will develop some form of prolapse, only 10–20% of all women seek medical assistance [2]. The prevalence of POP increases with age, with a peak incidence in women aged 60–69 [3]. POP can be identified in up to 50% of women upon vaginal inspection,

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https://doi.org/10.1016/j.maturitas.2018.02.004
Accepted 31 January 2018

but if POP is defined by the presence of clinically relevant symptoms, its prevalence in the general population may range between 3% and 6%, since mild or moderate POP is frequently asymptomatic [4].

The etiology of POP is multifactorial. Risk factors include pregnancy, childbirth, obesity, congenital or acquired connective tissue abnormalities, chronic constipation, family history of POP, denervation or weakness of the pelvic floor, the menopause and aging [2,5–9].

POP-related symptoms may vary based on the anatomical defect(s) or in relation to the degree of bladder, bowel and sexual dysfunction [1]. While many symptoms attributed to POP have a weak to moderate correlation with a defect in pelvic organ support, moderate to advanced POP is characterized by report of a vaginal bulge. The anatomic threshold for symptomatic prolapse appears to be the hymen. Medical attention is not frequently sought for early-stage POP, although it is often identified in young and active women, who complain of subjective impairment of their quality of life, particularly concerning their sexual or work life, and physical activity [10].

Bladder and urethral function are frequently affected by loss of support of the anterior vaginal wall and apex. Symptoms of stress urinary incontinence (SUI) often coexist with stage I or II anterior prolapse (as defined below). However, as the anterior prolapse worsens, most women see improvements in SUI and in fact may experience progressive voiding impairment due to bladder outlet obstruction. In this circumstance, women often report symptoms such as voiding hesitancy, prolonged or intermittent flow, the need to push the POP up to aid voiding and the sensation of incomplete bladder emptying. Women with POP also have an increased risk of overactive bladder symptoms, such as urgency, urge urinary incontinence, frequency and nocturia [11].

Defecatory symptoms are common in women with POP and may occur with any defect of the posterior compartment, including rectocele, enterocele, sigmoidocele, internal rectal prolapse or full mucosal rectal prolapse. Constipation, incomplete evacuation and obstructed defecation are common complaints. Straining and the need to exert digital manipulation to complete evacuation are clinical hallmarks of obstructed defecation syndrome.

The evaluation of a patient with vaginal prolapse requires complete assessments of the anatomical defect, of the full spectrum of pelvic floor symptoms and of how these symptoms affect quality of life.

The use of a standardized system to describe POP is a key component of treatment. The Pelvic Organ Prolapse Quantification (POP-Q) system is internationally regarded as the standard for this purpose. It provides a reproducible description of the support of the anterior, posterior and apical vaginal segments using precise measurements to a fixed reference point, the hymen, and established criteria for staging the various levels of pelvic organ support from good support (POP-Q stage 0 or I) to almost complete lack of support (POP-Q stage IV). For the further qualitative assessment of symptoms, a number of questionnaires and instruments for condition-specific health-related quality of life (HRQOL) are available and validated in different languages [12–15].

1.2. Age- and menopause-related modifications to the pelvic floor

Menopause is reckoned to be a key event associated with the emergence or a worsening of POP. Symptoms and severity increase significantly across the menopausal transition [7]. Despite this, it is difficult to differentiate the specific contribution of estrogen withdrawal from that of the aging process *per se*. Pelvic organs, and their muscular and connective tissue supports, are estrogen-responsive.

The sensitivity of the urogenital tissues to sex steroid hormones has been posited as an explanation for the frequent report of symptoms in the lower urinary tract at the menopause. A panel of experts recently incorporated this increased frequency of urinary tract symptoms into a unifying concept called the genitourinary syndrome of menopause (GSM) [16]. GSM is defined as a collection of symptoms and signs associated with a decrease in estrogen and other sex steroids; these symptoms and signs include changes in the labia majora and minora, clitoris, vestibule/introitus, vagina, urethra and bladder. The syndrome may include but is not limited to: genital symptoms such as dryness, burning and irritation; sexual symptoms such as lack of lubrication, discomfort or pain, and impaired sexual function; and urinary symptoms such as urgency, dysuria and recurrent urinary tract infections. Women may present with some or all of the signs and symptoms, which must be bothersome and not attributable to another diagnosis [16]. While the creation of a new medical entity has been broadly debated and criticized, it highlights how menopause does not affect solely vaginal tissues.

1.3. Impact of estrogen therapy on pelvic floor disorders

Withdrawal of estrogens during the menopausal transition results in changes in the vagina and external genitalia that are collectively known as vulvovaginal atrophy (VVA). Menopause is also associated with significant changes in the low urinary tract and the pelvic floor. The urethra and surrounding tissues, the bladder muscle and mucosa, and the pelvic floor muscles all express estrogen receptors and become to some extent dysfunctional in the absence of estrogens. Nearly 50% of postmenopausal women have clinical symptoms related to VVA [17]. Any use of estrogens, orally, transdermally or vaginally, improves VVA. While vaginal estrogen therapy provides symptomatic relief for urogenital atrophy, there is no evidence that it is beneficial in preventing or limiting the progression of POP. Women are wary of estrogen treatment: 41% of women have long-term safety concerns and 30% are apprehensive about breast cancer. Nine percent of menopausal women receiving a vaginal estrogen prescription never take the medication, and those who do typically discontinue therapy after just 3 months. This reluctance of women to use vaginal estrogens and physician disinclination to recommend such therapy suggest either that such preparations are not very effective or that their utility is underappreciated [18].

A Cochrane systematic review published in 2010 regarding the role of estrogens in preventing or treating female POP found scarce data in this regard [19]. The only information from randomized trials comes from the pooled data from trials of raloxifene carried out in postmenopausal women aimed at preventing or treating osteoporosis; these studies reported a decreased rate of prolapse surgery in women over 60 years of age treated with raloxifene [19]. Studies evaluating the effect of local estrogens versus placebo or no treatment in women with POP have mainly assessed VVA symptoms and signs rather than POP symptoms, and thus provide little evidence on the clinical utility of such treatment in the prevention or treatment of POP. A recent analysis from the Women's Health Initiative trial suggested that bilateral salpingo-oophorectomy at the time of hysterectomy is not associated with increased risk of cystocele or rectocele. Moreover, bilateral salpingo-oophorectomy and no subsequent hormone therapy may have a protective effect against cystocele or rectocele, thus confirming the evidence regarding estrogen therapy's limited effectiveness in the prevention and treatment of POP [20].

1.4. Perioperative use of estrogens in POP surgery

The evidence regarding the use of vaginal estrogen before prolapse surgery is inconsistent. It is uncertain whether preoperative vaginal estrogen is beneficial. The use of vaginal estrogens improves the vaginal maturation index at the time of surgery and increases vaginal epithelial thickness, but this does not translate into increased vaginal sub-epithelial/muscularis thickness [18,21] and thus any possible surgical advantages are to be proved. One study found that the use of vaginal estrogens preoperatively decreases the frequency of bacteriuria after surgery, but no difference in the incidence of symptomatic cystitis [22]; however, the study design does not allow for a comparison of the effect of vaginal estrogens on other urinary complaints or on the integrity of prolapse repair or wound healing [22].

Three studies have evaluated the use of vaginal estrogens after