

Urogenital consequences in the aging female health and social care essay



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Various anatomical, physiological, genetic, lifestyle and reproductive factors interact throughout a woman's life span and contribute to pelvic floor disorders (PFDs). Aging affects pelvic floor as well as urethral anatomy and function, which can result in a variety of disorders, such as pelvic organ prolapse, lower urinary tract symptoms, dysfunctional bowel and bladder evacuation and sexual dysfunction. The exact mechanisms and pathophysiological processes by which aging affects pelvic floor and lower urinary and gastrointestinal tract anatomy and function are not always clear and in most cases it is difficult to ascertain the exact role of aging per se as an aetiological, predisposing or contributing factor. Other conditions associated with aging that may coexist, such as mental status changes (dementia with associated delirium and confusion) can result in different types of pelvic floor dysfunction, for example functional incontinence. Pelvic organ dysfunction may be associated with significant morbidity and impact on quality of life. Clinicians with an understanding of the impact of aging on the pelvic floor and lower urinary and gastrointestinal tract anatomy and function will be able to investigate, diagnose and treat appropriately this group of patients who often pose complex diagnostic and therapeutic dilemmas due to complex medical conditions and coexisting morbidities. Such a holistic approach may result in substantial improvements in their quality of life. Key Words: female; aging; elderly; pelvic organ dysfunction; prolapse; anal incontinence; urinary incontinence; lower urinary tract symptoms

UROGENITAL CONSEQUENCES IN THE AGING FEMALE.

Various anatomical, physiological, genetic, lifestyle and reproductive factors interact throughout a woman's life span to contribute to pelvic floor disorders (PFDs). Aging affects pelvic floor as well as urethral anatomy and function, which can result in a variety of disorders, such as pelvic organ prolapse, lower urinary tract symptoms, dysfunctional bowel and bladder evacuation and sexual dysfunction. In most of the cases, different pelvic floor disorders coexist, making multidisciplinary assessment and treatment essential (1). Although age is well known to affect pelvic floor and lower urinary and gastrointestinal tract anatomy and function, the exact mechanisms and pathophysiological processes are not always clear and in most cases it is difficult to ascertain the exact role of aging per se as an aetiological, predisposing or contributing factor. Although pelvic organ disorders may result in significant morbidity and affect quality of life and can be life altering, they rarely have any impact on a woman's overall physical health or life expectancy. The purpose of any treatment should be symptom relief and restoration of normal pelvic anatomy. However, decisions about diagnostic and therapeutic interventions should take into consideration the expected anatomical, functional and quality of life improvements, which should outweigh risks of morbidity and complications of the treatment. (2). The increased life expectancy, women's awareness of pelvic floor health and disorders with associated quality of life considerations, as well as the development of various treatment modalities over the past few decades, are factors that have resulted in an ever increasing demand and usage of healthcare resources in this field. The estimated demand for consultations

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for pelvic floor disorders is anticipated to increase by 30% by the year 2030 (3), those who will undergo SUI surgery will increase 47.2% and those who will have surgery for POP will increase from 166,000 in 2010 to 245,970 in 2050 (8). In patients with frailties, multiple comorbidities, or cognitive dysfunction, the primary aim should be to optimise quality of life. Thus, decisions for treatment modalities require a thorough assessment of the patient's condition and recognize those who may be too frail to undergo interventions with surgical and anaesthetic risks (4).

PELVIC ORGAN PROLAPSE (POP)

Age, along with body mass index, and higher vaginal parity are the most common risk factors for prolapse. Two studies from the Women's Health Initiative (WHI) including women in the United States aged 50 to 79 years reported a prevalence of any degree of prolapse (grades 1-3) based on examination to be 41.1% (5) (6). The prevalence of cystocele was 24.6% to 34.3%, rectocele 12.9% to 18.6%, and uterine prolapse 3.8% to 14.2%. Among 1000 women who presented for an annual gynecological examination, every additional 10 years of age conferred an increased risk of prolapse of 40% (7). A prospective cohort study of 249 women found that over 3 years, prolapse increased by at least 2 cm in 11% and regressed by the same amount in 3% of women, confirming that prolapse is dynamic disease process and that not all prolapse progresses with time (8).

Pathogenesis

Epidemiological studies indicate that vaginal birth and aging are two major risk factors for the development of POP (9). Pudendal nerve injury may not be related to denervation of levator ani (LA) muscles, as they innervated by <https://assignbuster.com/urogenital-consequences-in-the-aging-female-health-and-social-care-essay/>

nerve roots S3-S5 (10). Loss of skeletal muscle volume and function occurs in virtually all striated muscles during aging (11). As the striated muscles lose tone, ligamentous and connective tissue support of the pelvic organs must sustain more forces conferred by abdominal pressure. As the connective tissues bear these loads for long periods of time, they stretch and eventually fail, resulting in prolapse. Loss of connective tissue "resilience" is believed to contribute to pelvic organ prolapse during aging. Thus, increased collagen content by immunofluorescence likely represents both mature and newly formed immature collagen (11). Research in mouse models suggests that elastic fiber homeostatic networks are important in the pathogenesis of POP, as in adults and in elderly subjects, elastic fibers gradually become tortuous, frayed, and porous (11).

Treatment

The surgical management of POP involves vaginal and abdominal procedures with or without use of meshes / grafts for tissue reinforcement. Use of meshes is more common in cases of severe fascial defects, where reconstruction with native tissue cannot be achieved. The age-specific rate for vaginal mesh procedures is highest in women aged 70-79 years, whereas the rates of abdominal sacrocolpopexy and minimally invasive sacrocolpopexy are highest in women aged 60-69 years (12). However, warnings on the safety of use of synthetic mesh in transvaginal repairs have recently been issued. The FDA stated that "based on an updated analysis of adverse events reported to the FDA and complications described in the scientific literature, the FDA identified surgical mesh for transvaginal repair of POP as an area of continuing serious concern" (13). ACOG and AUGS

recommended that mesh augmentation be reserved for high-risk individuals in whom the benefit of mesh placement outweighs the potential risks (14). Despite this, there is still no dramatic decrease in the rate of vaginal mesh procedures given that the initial FDA public health notification was in 2008 (12).

Pessaries Before the nineteenth century and the advent of surgical treatments, vaginal pessaries were the gold standard for POP management. Pessaries are an inexpensive, simple, low-risk, and effective conservative treatment and should be offered as a first-line of therapy for the management of POP regardless of a patient's age or prolapse severity (15, 16). Elderly women who do not wish to have surgery are excellent pessary candidates. Pessaries are changed every 3 to 6 months depending on the type. Contraindications for the use of pessary include noncompliance with follow-up, dementia, active vaginal infection, persistent vaginal erosion or ulceration, or severe vaginal atrophy. Immediate potential complications include pain, bleeding, urinary retention, defecatory dysfunction, and urethral mucosal prolapse. Factors include prolonged use, vaginal atrophy, advanced age and cognitive impairment. Pessary use significantly improves both prolapse and bladder symptoms. Fernando et al. (17) evaluated prospectively the symptoms of 97 women after successful pessary fitting, using baseline and 4-month questionnaires and they found a significant difference in voiding in 39 subjects (40%, $P = .001$); in urinary urgency in 37 (38%, $P = .001$); in urge urinary incontinence in 28 (29%, $P = .015$); in bowel evacuation in 27 (28%, $P = .045$); in fecal urgency in 22 (23%, $P = .018$); and in urge fecal incontinence in 19 women (20%, $P = .027$). Komesu et al. (18) however, found that there was little effect of pessary on bowel-related symptoms. Clemons et al. showed that age greater than 65 and severe

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comorbidity were significant predictors of continued pessary use after 1 year in women with POP (19). Colpocleisis In patients who do not desire to preserve postoperative coital function, an obliterative surgical procedure should be considered. It is less invasive, requires shorter operative times and less anaesthesia, and has fewer surgical risks over other vaginal reconstructive procedures. Thus, colpocleisis is suitable for patients of advanced age or those with significant medical comorbidities, who have either declined conservative treatment (pessary use) or had unsatisfactory results. It is important to counsel the patients that intercourse is precluded, but in the properly selected patient, report of regret is low (20), anatomical success rates and patient satisfaction are high (20) and improvements in health-related quality of life are equivalent to reconstructive approaches (21).

URINARY INCONTINENCE (UI)

UI can result in psychosocial difficulties, including low self-esteem, social isolation, and sexual dysfunction. Especially in elderly patients, it may have associated medical complications and some authors consider it a marker for increased mortality rate in some cases (22). Many elderly patients accept it as a normal part of aging and they do not seek help earlier than an average of 4 years (23). Geriatric incontinence evaluation begins with understanding its impact on the patient's quality of life and daily function. Assessment should include medication history, examination for neurological conditions, mobility and dexterity issues and review of medical conditions. Stage III-IV POP can cause obstruction at the ureterovesical junction, which is more likely with older age and uterus in situ (24). Treatment is indicated especially in

cases of associated complications, such as recurrent urinary tract infections. Interventions include treatment of anatomical problems and if there is no anatomical problem, voiding dysfunction and overflow incontinence require either intermittent or indwelling catheterization. Behavioural treatments such as prompted voiding can be considered. In various clinical trials, 33% to 60% of patients had improvement in their symptoms (25, 26). Prevalence rates increase with age. Studies show (27) that the prevalence of incontinence in women in the United States over the age of 80 years was 31.7% compared with women aged 40 to 59 years with a prevalence of 17, 2%. In the elderly, UI can be transient (in patients with a temporary underlying condition i. e. UTIs, atrophic vaginitis), chronic, overflow (associated with outlet obstruction or poor detrusor contractility and voiding dysfunction) (28) and functional (associated with factors not directly associated with the bladder). Nocturia can be a symptom that may affect quality of life and increases fracture risk (29). Nocturnal polyuria has multiple pathophysiological and medical causes in the elderly (30). A bladder diary can help in identifying possible causes, which may vary including bladder problems, fluid intake, medications. A bedside commode may improve quality of life and reduce fracture risks.

Pathogenesis

Urological, gynecological, and neurological disorders, and functional impairments, particularly dementia and lack of mobility (including bed restraints), are common factors (31). Especially nursing home residents appear to have “ functional” incontinence particularly associated with immobility and dementia (32-34). Hormone replacement therapy has been

implicated as a risk factor, as increased incidence of all types of urinary incontinence has been found at 1 year among women who were continent at baseline (6).

Diagnosis

Apart from the standard diagnostic tests, it is important in specifically the elderly patients to evaluate their ability to take part in daily activities (bathing, dressing, eating) (35) and assess vision, muscular weakness, paralysis or poor coordination, tremor, numbness, and tingling sensation.

Role of urodynamics (UDS)

Urodynamics are commonly undertaken preoperatively before a surgical intervention, however the contribution of the test to decision making on treatment options, or its predictive value on outcomes is unclear. The function of urethra and bladder during storage and voiding phase and the pathophysiology of the symptoms can be assessed. The role of urodynamics in the investigation and diagnosis of voiding dysfunction is well established and results in improved outcomes (36). UDS are often used for the diagnosis of SUI. The ability of urodynamic urethral function tests to predict symptom severity is unclear, as is the role of some urodynamic parameters including maximum urethral closure pressure and valsalva leak point pressure in predicting outcomes after treatment for SUI (37).

URGE URINARY INCONTINENCE

UUI can be caused by an involuntary bladder contractions or poor bladder compliance that results from loss of the viscoelastic features of the bladder.

It is most commonly idiopathic, however, there is an association with

advancing age, and cognitive and neurological impairment. Moreover, there is poor understanding of aetiology, pathophysiology and rationale of different treatments in elderly patients with UUI, making communication and appropriate counseling of these patients even more important (38).

Treatment

Conservative Lifestyle and behavioral modifications such as fluid management, avoidance of bladder irritants, bladder training and timed voiding, and pelvic floor muscle exercises with or without biofeedback have positive outcomes. Pharmacotherapy It is the mainstay of treatment for urgency and UUI, and antimuscarinics are still the most widely used agents. Contraindications and side effects should be considered when treating elderly patients. Surgical Treatment In patients with refractory overactive bladder who have failed medical treatment sacral neuromodulation is an option, as it can provide effective relief of overactive bladder symptoms and neurogenic retention. Another, less invasive treatment is percutaneous tibial nerve stimulation. Intravesical botulinum toxin injections is an efficacious second / third line treatment (39). Repeat injections are required every 6 to 9 months. They seem to be safe, but have high voiding dysfunction rates (23).

STRESS URINARY INCONTINENCE (SUI)

SUI is caused by increased intra-abdominal pressure that exceeds the urethral pressure (40). Urethral hypermobility or intrinsic sphincter deficiency affect the continence mechanism.

Treatment

Conservative Weight loss has been shown to improve SUI symptoms. Fluid modifications should be considered in patients with high volumes of fluid intake. Constipation and chronic coughing should be treated. Timed voiding may also help in controlling symptoms. Pelvic floor muscle exercises are effective conservative treatment but require compliance. Other treatments include biofeedback, use of vaginal cones, electrostimulation, and bladder neck support devices (41). The use of topical vaginal oestrogens may be beneficial in post-menopausal women with vaginal atrophy (40).

Pharmacotherapy Duloxetine has been used in Europe (23) but is very rarely part of a treatment algorithm. There is no pharmacological treatment for SUI in the United States. Surgical treatment If all conservative measures fail, surgical intervention can be considered. The number of women who have undergone SUI procedures has increased from 48,345 in 1979 to 103,467 in 2004. Further analysis by age stratification showed a more than doubling of the age-adjusted rate for women 52 years old, rising from 0.64 to 1.60 per 1000 (42). Rates of retropubic urethral suspension procedures decreased by 0.08% per year between 1979 and 2004, where suburethral sling use increased by 0.01% (42). Urethral bulking Urethral bulking injection is minimally invasive, well tolerated, and efficacious, especially in the short term. Appropriate patient selection is paramount. It improves the urethral coaptation and restoring the mucosal seal mechanism of continence. It has been used in patients with isolated intrinsic sphincter deficiency (ISD), limited urethral mobility, and absence of detrusor overactivity (43). However, a broader range of patients with all types of SUI has been treated (44). It is most appropriate for patients who cannot be operated, require continued

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anticoagulation therapy, elderly, desire nonsurgical therapy for SUI, have persistent SUI after an anti-incontinence procedure, or have poor bladder emptying and may be at higher risk for voiding dysfunction (45). However, its efficacy is only 40% or less in some series, and these results may deteriorate with time, necessitating reinjections (23). Patients need to understand that injection is a single intervention, and multiple injections may be needed (46). Synthetic mid-urethral slings (MUS) They are now the mainstay treatment for women with SUI. It is a minimally invasive procedure and the sling can be placed via a retropubic or transobturator approach. Due to the serious complications of the use of MUS, FDA and AUA reconsider the efficacy and safety of their use. The Cochrane meta-analysis (47) compared the efficacy and complications of MUS and found that the efficacy of retropubic slings was slightly higher for objective cure rate, but there was no difference in subjective cure rate between this and transobturator. Regarding complications, transobturator slings have a higher incidence of transient groin pain (12%), but retropubic slings have a higher risk of bladder perforation (5.5% vs 0.3%) and postoperative voiding dysfunction (7% vs 4%). Novara et al. (48) in an updated systematic review confirmed these findings, and also found that retropubic slings have a higher rate of haematoma and vaginal perforation, as well as storage lower urinary tract symptoms. Elderly women have increased prevalence of mixed urinary incontinence (MUI) and intrinsic sphincter deficiency (ISD), which could potentially lead to a higher risk of adverse outcomes and lower success with MUS for SUI. The use of MUS to treat SUI in the elderly is approved, provided that patients are counseled appropriately regarding the lower cure rates as well as the higher risks of de novo urgency (49, 50). Contraindications

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include the presence of pure detrusor overactivity and an atonic bladder or a neurogenic bladder. Also, patients who are otherwise at high risk for postoperative voiding dysfunction and who are unable or unwilling to perform self-catheterization may not be suitable candidates (51). In elderly patients and patients who also have overactive bladder symptoms or evidence of voiding dysfunction concomitant with POP, a transobturator approach is often preferable (51).

ANAL INCONTINENCE

Most studies report a significant effect of age on increasing risk of fecal incontinence (52) (53). FI is a debilitating condition (54), yet the mechanisms underlying FI are still not fully understood (52). In institutionalized patients FI may be a marker of declining health and increased mortality (55). Immobility and dementia preclude patients from getting to the toilet in time and are important associated factors of FI. It is known that FI is more common in women with pelvic floor dysfunction (PFD). Older women with FI are unable to augment their pelvic floor strength. Levator ani defects are significantly more common in FI older women and are strongly associated with FI, even when adjusting for defects in the EAS (56). Whitehead et al. (57) reported that for each 10-year increase in age, the adjusted odds of prevalent fecal incontinence increases by 1.20. Although diarrhoea was the strongest risk factor in 46% of nursing home residents with FI, dementia actually played a greater role in the development of FI (58) and another study concluded that immobility and impaired mental function were independent predictors of FI (59). Moreover, in a study for UI, toileting assistance every 2 hours significantly decreased UI and significantly increased the number of

appropriate bowel movements from 23% to 60% (60). The incidence of constipation increases with age and is also attributable to immobility, “ weak straining ability,” the use of constipating drugs, and neurologic disorders (61). Fecal impaction, a leading cause of FI in the institutionalized elderly (62), can be caused from person’s inability to sense and respond to the presence of stool in the rectum.

Treatment

When FI is associated with diarrhoea, it is important to treat underlying disorders. Antidiarrhoeal medications may help. Increased intake of dietary fiber can relieve constipation. Stool softeners, saline laxatives, stimulant laxatives, and single-agent osmotic products are frequently administered for constipation and impaction. However, in one study combined PFMT, behavioral strategies, diet, and pharmacotherapy resulted in 50% improvement in over half of participants, with a mean age 59 years (63). Biofeedback therapy was efficacious in a randomized controlled trial of ambulatory patients (64), however, in institutionalized patients dementia and immobility may limit the effectiveness of such treatment.

URINARY TRACT INFECTIONS

Urinary tract infections (UTIs) are the most common bacterial infections among older populations. More than 50% of women sustain a UTI in their life and about 10% of women have an episode annually (65). It can be asymptomatic or symptomatic to even life threatening caused by urosepsis. It can also be uncomplicated in women with normal genitourinary tract, or complicated, in women with functional or structural abnormalities (66). UTIs are a principal cause of falls in nursing home patients (67) especially those <https://assignbuster.com/urogenital-consequences-in-the-aging-female-health-and-social-care-essay/>

with dementia (68). UTIs frequently complicate acute medical conditions such as stroke (69). An association exists between UTIs and acute coronary syndrome, suggesting that systemic inflammation may even precipitate coronary ischemia (70). A woman over 80 with urinary incontinence and needing support to walk has a risk of nearly 50% of asymptomatic UTI (71). Mobile nursing home patients have nearly a 70% less likelihood of being hospitalized for UTI than immobile, and maintaining or improving mobility reduces this risk by 39% to 76% (72). Strategies effective at reducing UTIs include avoidance of catheterization and having a physician review at the time of nursing home admission (72). Authors suggest that urinary catheters in nursing home residents should be avoided for management of incontinence (73). Fever from a urinary infection is three times more frequent in patients with a chronic catheter, evidence of acute pyelonephritis at autopsy is eight times more frequent, and bacteraemia from a urinary source is three to 39 times more frequent (74). Increased mortality has been reported in elderly residents with chronic indwelling catheters (75). However, these residents have greater functional impairment and more comorbidities, so decreased survival is expected. Therefore the excess mortality is not attributable to urinary infection (66).

Epidemiology

In women, asymptomatic bacteriuria increases with increasing age, with prevalence of 20% in women older than 80 years old (66) and the rates of hospitalization for pyelonephritis also increase (76). Severe UTIs in older women require hospitalization, but mortality rates are low (77). Symptomatic UTIs is the second cause of infection in residents and incidence varies from

0. 1 to 2. 4/1000 resident days (78) and 0 to 2. 31/1000 resident days (79). For the elderly patients with diabetes, indwelling catheters, or urinary tract abnormalities, voiding dysfunction due to chronic neurological diseases (Parkinson disease, Alzheimer disease and cerebrovascular disease) are considered the most important contributing factors (35). Especially patients with catheter should be considered as a different group with different complications and management of UTIs (80). Individuals with catheter are almost always bacteriuric (74). In postmenopausal women, recurrent urinary infections are associated with a history of urinary tract infections at a younger age (81). Asymptomatic bacteriuria in institutionalized patients is often secondary to functional impairment, bladder or bowel incontinence and cognitive impairment (82) and not necessarily correlated with increased post void residual urine volumes (PVR) (83). The most common cause of UTIs in women is *Escherichia coli* (84), but *Enterobacteriaceae* is also isolated (78, 82).

Pathogenesis

Infection in women most often results from perineal or periurethral bacteria that enter the urethra and ascend into the bladder, often in association with sexual activity (85). The change in the vaginal pH of postmenopausal women creates a suitable environment for colonization with uropathogens. Hormone replacement therapy restores the *Lactobacilli*. A Cochrane review summarized results of prospective clinical trials of oestrogen therapy to prevent recurrent urinary infection in women (70). The effectiveness of the use of topical vaginal oestrogen is uncertain (86) (87, 88). Moreover, the increased PVR of the elderly women contributes to UTIs (89). Thus, women of mean age of 79 years old and a prior history of urinary infection had

significantly higher mean PVR volume, compared with women without prior infection (70ml versus 33ml) (89). But other studies failed to support these findings (81, 90). Older women with urinary incontinence usually have concomitant symptomatic or asymptomatic UTI (90), but a Swedish study in elderly people reported that urinary incontinence, reduced mobility and oestrogen therapy are independent risk factors for bacteriuria (69).

Clinical Diagnosis

Screening for ASB is not routinely recommended in elderly living in the community. Elderly individuals experience cystitis with urgency, frequency, dysuria, nocturia and suprapubic discomfort, whereas in elderly residents it is difficult to be diagnosed, because of impaired communication and chronic genitourinary symptoms. Although in elderly women cystitis may present with worsening or new onset incontinence cystitis, nonspecific symptoms are common, including altered mental status or delirium, general malaise, or, in extreme cases, systemic inflammatory response syndrome, sepsis, or septic shock (66). In patients with chronic indwelling catheter, fever is the most common symptom (74). The diagnosis will be based on urinalysis and urine culture.

Management

Asymptomatic bacteriuria does not require treatment, as it is not associated with negative outcomes and may result in antibiotic resistance and adverse effects (91). A 3 day course of Trimethoprim/sulfamethoxazole is effective treatment. A prospective, randomized study of women with mean age 78, 5 years showed that 3 or 7 days of ciprofloxacin (2nd line treatment) had the same results (92). Nitrofurantoin should be used for 5 days (3rd line
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treatment). For the treatment of pyelonephritis, a course of 10-14 days is recommended. In patients who have indwelling catheter, this should be replaced before the treatment is commenced (93), with 7 days course to limit re-infection. Urinary infections can be prevented by avoiding the use of an indwelling catheters and, if a catheter is necessary, discontinuing catheterization as soon as possible. Long-term low-dose prophylactic antimicrobial therapy can prevent recurrent infections in older women. First-line regimens are low dose cefalosporins, nitrofurantoin 50 or 100mg or trimethoprim 100mg tablet daily at bedtime. Prophylactic regimes duration is at least 6 to 12 months. Short-course self-treatment is an alternative strategy, although this approach has not been evaluated in older women (66). Medication interactions should be considered. Well-controlled studies of optimal type and duration of therapy for UTIs in patients with diabetes are lacking, but 10 to 14 day courses of antibiotics are recommended (94). In older women with recurrent UTIs, daily cranberry extract appears effective and safe prophylactic regime (73). Topical vaginal estrogen decreased the frequency of recurrent infection in two prospective, randomized, placebo-controlled trials (86) (87). In a prospective, randomized, placebo-controlled trial reported that daily cranberry tablets or juice decreased episodes of recurrent urinary infection by 30%. One third of women enrolled in this trial were postmenopausal, but outcomes were not stratified by age (95).

CHRONIC CONSTIPATION

There is a higher prevalence of constipation and laxative use in the elderly (96), particularly in the institutionalized. Studies suggest a prevalence of about 50% of nursing home residents using daily laxatives (97). Severe

constipation is seen most commonly in women, with elderly women having two to three times higher rates than their male counterparts (98) mainly due to slow colonic transit and PFD. The altered mechanical properties, structural changes, and control of the pelvic floor in elderly impact bowel structure and function (99). However, the full extent and physiologic impact of those changes on continence and defaecatory function remain unclear. Additional factors with impact on bowel function are medication, impaired defaecation, degenerative disease, decreased dietary intake, dehydration, dementia, decreased mobility/activity, decreased privacy, depression. Although loss of colonic neurons (100) and changes in the morphology of the myenteric plexus of the colon (101) are age related processes, the exact factors that contribute to the altered motility with aging are complex (102). Some studies have found a slowing in the elderly (103), whereas others have detected no significant difference between the elderly and their younger counterparts (104). The elderly may not recognize calls to defaecate, which results in fecal retention and suppression of rectal sensation.

Treatment

In patients who fail to improve with fiber supplementation osmotic laxatives, can be used. High doses of polyethylene glycol may cause excessive stool frequency, nausea, bloating, cramping, and flatulence. Stimulant laxatives, which promote intestinal motility, do not seem to increase risks of bowel injury (105). Stool softeners are of limited overall efficacy (106). Glycerin Suppositories help facilitate rectal evacuation. Prucalopride is efficacious for severe constipation (107) (108), but there is not enough evidence in the elderly. Biofeedback appears effective in more than 70% of patients (64)

(109) (110). Although rarely indicated, subtotal colectomy with ileorectal anastomosis is the treatment of choice for medically refractory slow transit constipation but only if PFD is excluded (111). Outcomes in the elderly are uncertain.

SEXUAL FUNCTION

Sexual function may be affected by various factors associated with the aging process. Mucosal atrophy, scars, a short or narrow vagina, or a tense contracted pelvic floor can result in sexual pain. Lack of physical sexual response can also result in discomfort and pain. During menopause different changes take place and sexual health may be affected. Fear of leakage and use of pads can lead to decreased frequency of sexual activity. POP changes could further affect self image leading to embarrassment, feeling less sexually attractive and impaired quality of life. The physical and mental health status and a large variety of intra- and interpersonal factors, premenopausal sexual function, quality and duration of the relationship, as well as general and sexual health of the partner, can contribute to sexual dysfunction (112). Vaginal dryness and dyspareunia caused by vaginal atrophy can cause impairment in ability to achieve sexual activity and satisfaction (113). Changes in sensory perception, central and peripheral nerve transmission and discharge, peripheral blood flow, and the capacity to develop muscle tension in response to the loss of oestrogen are other factors of sexual dysfunction for women in menopause (114). These changes in the urogenital tract lead to increased vaginal infections, urinary tract infections, urinary incontinence and sexual problems. However, increased vaginal wall thickness in postmenopausal women with prolapse, does not appear to

cause any difference in the prevalence of sexual dysfunction (115). The role of testosterone in women's sexual function, as well as the associations of hypoactive sexual desire disorder (HSDD) with vaginal dryness as a consequence of the oestrogen and androgen withdrawal have been evaluated (116) (117). An observational prospective study of 438 women aged 45-55 found changes in sexual function, including decreased sexual responsiveness, sexual frequency, and libido and increases in vaginal dyspareunia and partner problems (118), whereas another study implies that health and interpersonal factors had a greater impact on sexual function than hormonal factors alone and oestrogen levels were not significantly related to sexual desire (119). In a longitudinal study 24% of postmenopausal women reported they never felt and 41% infrequently felt sexual desire, but the majority reported experiencing arousal (92%), and only 13% rated sex as not very important (120). Another interesting finding is that lower sexual desire increases with age but the proportion of women who are distressed about it decreases (121). A study of 286 women in menopausal transition (MT) and in early postmenopause (PM), found that women experience significant decrease in sexual desire during the late MT and early PM and also women with symptoms of hot flushes, fatigue etc, reported significantly lower sexual desire, but there was not correlation with vaginal dryness (122). The older the woman is, the higher risk is that her husband may also have a male sexual dysfunction, and the partner can be the symptom inducer, or symptom carrier (123). Other important non-hormonal factors that affect sexuality are comorbidities and current medications, changes in the partner relationship, social status, and cultural attitudes toward older women.

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Treatment

Treatment should be customized on the needs of each woman. Use of lubricants may facilitate penetration and vaginal oestrogens may improve symptoms associated with vaginal atrophy. Treatment of POP may correct the anatomical and mechanical causes of dysfunction, but surgical intervention may also cause changes to vaginal anatomy and dyspareunia. However, a study showed that vaginal size did not affect sexual activity or function (124). Nevertheless, discomfort and apareunia postoperatively has been reported (125). Use of grafts or scar tissue formation may cause pain. Synthetic meshes used during repair may cause bleeding, discharge, pain, partner discomfort, and sexual dysfunction (126).

SUMMARY

Aging process in women can have multifactorial implications in the urogenital and lower gastrointestinal tract with different effects on anatomy function and quality of life. Multidisciplinary input is often of paramount importance in the management of women with complex disorders and comorbidities. Cognitive function, mobility and physical status, concomitant medication, perioperative care and appreciating the uncertainty of the recovery time are factors that may assist in the decision making and predict the outcomes of any intervention. In many cases more conservative approaches should be considered and POP and UI can often be treated effectively with non surgical or minimally invasive approaches. The overall aim should always be an individualized management plan with focus on an improvement of the woman's overall quality of life.

PRACTICE POINTS

Aging may affect urogenital anatomy and function, but not always possible to estimate the contribution of this process per se. Regarding prolapse, older women who do not wish to undergo surgery pessaries should be offered but colpocleisis is also suitable for patients of advanced age or those with significant medical comorbidities, who have either declined conservative treatment (pessary use) and has satisfactory results. Geriatric incontinence evaluation plays important part in diagnosis and should begin with understanding of patient's condition, the impact on quality of life and daily function. An effective treatment may aim on an improvement of only the most distressing symptom, and conservative or minimally invasive measures should be considered first. Urinary tract infections are the most common bacterial infections among older populations and the treatment should be individualized in each patient, regarding the overall status. Anal incontinence and chronic constipation should not be underdiagnosed.

RESEARCH AGENDA

Elastic fibers in the pathogenesis of POP
Use of surgical mesh for POP/UI
Use of topical vaginal oestrogens for UTIs
Effect of aging on colonic transit