Both these studies demonstrated a weakness in the passive tissues, with the consequences of pelvic organ support being more reliant on the pelvic floor muscles.

Alperin and Mouli (2006) summarised the understanding of alterations in tissues in women with prolapse and concluded that metabolism of collagen and elastin is altered in prolapsed tissue. However, they said further studies were needed to fully understand physiological changes.

Evidence of damage during childbirth

A number of studies have suggested that pudendal nerve damage and/or anal sphincter injury may occur during childbirth (Sultan et al, 1994; 1993).

Allen et al (1990) showed pudendal nerve denervation in 80% of women following their first delivery and Snooks et al (1990) showed that this nerve damage may persist. The risk is that the denervated muscles undergo atrophy and pelvic organ support would be more reliant on the endopelvic fascia, which over time may become stretched.

Nicholls et al (2004) also looked at the consequences of childbirth in later life. One hundred women with symptoms of prolapse and/or urinary incontinence were asked to complete a questionnaire about faecal incontinence. Symptoms of current faecal incontinence were significantly associated with anal sphincter injury sustained during childbirth.

It may be that young parous women are not troubled by symptoms as they are able to compensate with strong muscles and intact connective tissue. However, with ageing, muscles weaken and the connective tissue may lengthen, stiffen and/or fail at the time of menopause. It is not until this point that neural or anal sphincter defects become clinically evident and symptoms of faecal urgency or incontinence develop.

The fascia itself may be damaged during childbirth – either stretched or detached from the pelvic side walls, as Dietz and Lanzarone (2005) demonstrated by transperineal ultrasound. It is not yet known how significant this is later in life as the tissues age. Looking to the future, it may be that ultrasound techniques postnatally may identify women at risk of symptomatic dysfunction in later years.

The urethra

There is evidence that the urethra itself may be hormonally sensitive. The urethral vascular mucosa forms folds which act as a watertight seal and aid continence. In Blakeman et al’s (2001) study, comparisons were made between cell proliferation rates in the lower urinary tract of postmenopausal women, some of whom were receiving hormone replacement therapy (HRT) and others who were not. The findings suggested that there is a mechanism by which oestrogen has a beneficial effect on the vascular mucosa of the lower urinary tract.

This explains why oestrogen is successful in treating some conditions of lower urinary tract dysfunction in postmenopausal women. However, it is not within the remit of this article to discuss the use of HRT or topical oestrogens in the treatment or prevention of postmenopausal symptoms.

SYMPTOMS

Stress urinary incontinence (SUI) is the most common type of incontinence and involves involuntary leakage on effort or exertion, or on sneezing or coughing. Incidence is difficult to measure as many women never seek help, but it is speculated that 50% of 48 year olds experience SUI (Kuh et al, 1999). Women often report that urinary incontinence is embarrassing and that they avoid activities that cause it to happen and feel the need to wear protection for everyday activities.

Pelvic organ prolapse is the term that includes prolapse of the anterior vaginal wall (urethrocele or cystocele), the posterior vaginal wall (rectocele) or uterine or vaginal vault descent. It is estimated that 50% of parous women have prolapse (Thakar and Stanton, 2002). Not all prolapses are problematic, but 10-20% of affected women seek help because of symptoms.

Symptoms of prolapse are often described as heaviness or a dragging sensation in the vagina, an uncomfortable bulge or a lump protruding from the vagina and possibly low backache. Bladder and bowel problems often coexist. There may be hesitancy of initiating the flow of urine, slow urinary flow rate and incomplete emptying; there may also be urinary urgency and frequency when a cystocele is present. Constipation may be a symptom of rectocele, and some women report the feeling of incomplete emptying or that they need to manually assist defecation.

Dyspareunia (pain during intercourse) may be a symptom of uterine prolapse, which can be compounded by vaginal dryness in postmenopausal women.

Faecal urgency or incontinence has a devastating effect on quality of life and is probably the most difficult symptom for women to disclose to healthcare professionals.

TREATMENT

For women to gain access to treatment for these symptoms, practitioners must give them time and privacy to ask questions about problems of bladder, bowel and sexual function and perineal comfort.

Stress urinary incontinence

Conservative treatment for SUI centres on a specifically designed pelvic floor muscle exercise programme, which Morkved and Bo (2000) found effective, and at least 12 weeks of muscle training should be offered as a first line treatment (NICE, 2006).

In Balmforth et al’s (2009) study, 97 women with symptoms of SUI were instructed with a 14 week programme of pelvic floor muscle rehabilitation, which included specific pelvic floor exercises and behavioural modification. Actual changes in functional anatomy were quantified using transperineal ultrasonography to measure the position of the bladder neck at rest, with maximum voluntary contraction and with the valsava manoeuvre, a bearing down movement. Following treatment, there was significant elevation of the bladder neck position in all three positions and less downward displacement with the valsava manoeuvre, suggesting increased support from the pelvic floor.

These changes were associated with significant reductions in urinary loss.

Peng et al (2007) showed by ultrasound that the pelvic floor muscle functions differently in women with SUI than in continent women. In continent women, the pelvic floor muscle has an anticipatory activity that functions like a brake to limit downward displacement, velocity and...