



## Pelvic Floor and Bladder Problems in EDS

Vik Khullar. Reader in Urogynaecology, Consultant in Obstetrics and Gynaecology. St Mary's Hospital, London

**The lower urinary tract comprises the bladder and urethra. Each has two functions, the bladder to store and void, and the urethra to control and convey urine. Bladder symptoms are a major cause of impaired quality of life. The loss of urinary control can affect the social, psychological, domestic, occupational, physical and sexual aspects of patients' lives.**

The social and psychological consequences can be profound, leading to limitations in social activity, anxiety, embarrassment and isolation. Incontinent patients are most likely to restrict their fluid intake leading to urinary tract infections, restrict physical activity and avoid places without easy access to toilets. I will be focusing on women for this article.

Although urinary incontinence is sadly considered a normal consequence of childbirth and ageing, many other factors are important in the development of this condition. Sex, age, ethnicity, smoking, constipation, obesity, connective tissue weakness, genital prolapse and gynaecological surgery have all been studied as potential aetiological factors.

Urinary incontinence can be the result of different diseases and considerable research has focused on its accurate diagnosis and subsequent management.

Three types of incontinence are usually described. Stress incontinence is defined as the loss of urine due to increased physical activity, coughing or any other activity causing an increase in pressure in the abdomen. Urgency incontinence is urine loss associated by a sudden urge to void which is associated with urinary leakage.

Mixed incontinence is the combination of both the symptoms of both stress and urgency incontinence. Thus amongst women over 18 years of age in Spain, United Kingdom and United States, 15%, 32% and 37% respectively, were incontinent as self-reported in a postal questionnaire. An analysis of the world literature on incontinence reported that stress incontinence is predominant at 49%, followed by mixed at 29% and urgency at 22%.

Research has suggested that the collagen of women with prolapse and stress incontinence may be abnormal and predispose them to develop these conditions. In one study, abdominal wall collagen was stiffer in women with stress incontinence, and collagen of the pubocervical fascia from stress incontinent women was weaker than that of continent controls. Type I collagen forms thick strong fibre units whereas Type III collagen forms thin weak, and isolated fibres. Biopsies on 30 women who had not had children with urodynamic stress incontinence (USI) and found a decrease in Type I collagen compared to Type III collagen, as well as a reduction in the total amount of collagen in USI women compared to continent controls.

Since the initial report of an association between joint hypermobility (JHM) and



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pelvic organ prolapse in 1982, the relationship has been consistently replicated in different groups using either examination or questionnaires, which have been broadly comparable. Several studies have also considered an association with stress urinary incontinence, but have had conflicting results (Table 1).

Joint hypermobility could be related to urinary storage symptoms, as patients with joint hypermobility syndrome do report a variety of autonomic nervous system-related symptoms associated with increased sensitivity to adrenaline, such an association has been shown with increased passing urine at night but it has not been assessed with other bladder symptoms.

In the recent study, around a third of women presenting with bladder symptoms had JHM but the type of bladder problem was not specific and

there was a trend towards more severe prolapse in women with JHM, which was significant after adjusting for age.

In a separate study comparing women with JHM and women without JHM for urinary symptoms, prolapse symptoms and examination, they found that over three quarters women with JHM were passing urine more frequently day and night and had urgency urinary incontinence and bladder pain. Interestingly the numbers of women with JHM and bladder pain was three times higher (56%) compared with the control group of women.

In summary, bladder problems cause considerable reductions in quality of life. Women with benign joint hypermobility suffer from more bladder symptoms such as urinary frequency, rushing to pass urine, stress and urgency incontinence and bladder pain. They also have higher incidences of vaginal prolapse.

Table 1. Reported associations between joint hypermobility and pelvic floor disorders.

Study	Cases	Country	Mean age case	Mean age controls	Prevalence of JHM cases % (n)	Prevalence of JHM controls % (n)	OR (95% CI)
Jha [24]	Any UI	UK	40 (20-58)	36 (22-56)	66.7 (27)	36.4 (33)	<b>3.50</b> <b>(1.20-10.20)</b>
Karan [25]	SUI	Turkey	44.1 (30-51)	42.5 (29-49)	34.3 (105)	26.7 (105)	<b>1.43</b> <b>(0.79-2.59)</b>
Norton [19]	SUI	USA	53.1 (49-57)	54.8 (51-59)	41.2 (34)	34.2 (73)	<b>1.34</b> <b>(0.58-3.10)</b>
	Symptomatic Prolapse				63.2 (19)	29.4 (85)	<b>4.11</b> <b>(1.45-11.67)</b>
Al-Rawi [18]	Anatomic Prolapse	Iraq	41.3 (21-69)	40.8 (23-65)	66 (76)	18 (76)	<b>8.52</b> <b>(4.0-18.0)</b>
Aydeniz[26]	Anatomic Prolapse	Turkey	54.9	54.3	53.8 (65)	9.6 (52)	<b>11.0</b> <b>(3.90-31.10)</b>
Knuuti [27]	Recurrent Anatomic Prolapse	Finland	70.1 (59-82)	69.8 (57-83)	50 (14)	27.6 (29)	<b>2.63</b> <b>(0.70-9.89)</b>