e-ISSN: 0975-1556, p-ISSN:2820-2643
Available online on www.ijpcr.com
International Journal of Pharmaceutical and Clinical Research 2024; 16(3); 1699-1702

Original Research Article

Overactive Bladder- Thin End of the Wedge in Perimenopausal Women: A Case Control Study

Avnish Kaur Jabbal[1], Aritra Maji[2], Chandni Sehgal[3]

[1]Junior Resident, Department of Obstetrics & Gynaecology, MGM Medical College & LSK Hospital, Kishanganj, Bihar, India
[2]Associate Professor, Department of Obstetrics & Gynaecology, MGM Medical College & LSK Hospital, Kishanganj, Bihar, India
[3]Assistant Professor, Department of Obstetrics & Gynaecology, MGM Medical College & LSK Hospital, Kishanganj, Bihar, India

Received: 25-01-2024 / Revised: 23-02-2024 / Accepted: 18-03-2024
Corresponding Author: Dr. Avnish Kaur Jabbal
Conflict of interest: Nil

Abstract:

Background: Globally, urinary incontinence impacts approximately 200 million individuals, with women being disproportionately affected at twice the rate of men. The International Continence Society (ICS) defines Overactive Bladder (OAB) as a symptom complex that includes urinary urgency, potentially accompanied by urge incontinence, and typically presents with increased frequency and nocturia. OAB substantially diminishes various aspects of life, such as work, sleep, sexual intimacy, and interpersonal relationships. Notably, urge incontinence, a component of OAB, significantly degrades health-related quality of life (HRQL).

Methodology: This case-control study involved 100 perimenopausal women, split into two groups: 50 participants displaying genitourinary symptoms formed the case group, and 50 asymptomatic individuals served as controls. We employed a structured questionnaire to assess their genitourinary issues.

Result: Findings from the study indicated that while urge incontinence and urgency were exclusively noted in symptomatic women (cases), other genitourinary issues such as frequency, nocturia, and vasomotor symptoms were similarly prevalent in both cases and controls.

Conclusion: The study reveals that even perimenopausal women who are asymptomatic may experience urogenital symptoms, highlighting a pervasive lack of awareness and understanding of overactive bladder issues within the community.

Keywords: Perimenopausal, urogenital, nocturia, urgency, incontinence, vasomotor.

Introduction

Overactive bladder (OAB) is a clinical syndrome characterized by a constellation of symptoms including urinary urgency, which may or may not be accompanied by urge incontinence, frequently paired with increased urinary frequency and nocturia. The condition affects approximately 200 million individuals globally, with women experiencing a notably higher incidence, a fact well-documented by various epidemiological studies. Overactive bladder in postmenopausal women is particularly prevalent and remains often underdiagnosed despite its significant impact on quality of life [1].

The transition to menopause involves a decline in estrogen levels, which poses distinct challenges in distinguishing the effects attributable solely to hormonal changes from those related to general aging. This period is marked by physiological alterations in the pelvic organs and their supportive structures, which are sensitive to estrogen levels. Research underscores menopause as a critical factor contributing to an increased risk of pelvic floor disorders, intensifying urinary symptoms and exacerbating the severity of these conditions post-menopause [2].

During the perimenopausal phase, the reduction in estrogen production leads to atrophic changes in mucosal surfaces, manifesting as vaginal dryness, vaginitis, pruritus, dyspareunia, and stenosis. Such genitourinary atrophy presents diverse symptoms impacting women's health and daily life, including urethritis with resultant dysuria, urgency incontinence, and a heightened frequency of urination. Notably, vaginal dryness becomes more pronounced in late perimenopause, and urinary incontinence often emerges as a primary concern during this stage [3].

Addressing overactive bladder in postmenopausal women necessitates a comprehensive approach that incorporates hormonal considerations along with

lifestyle adjustments. Effective management of postmenopausal OAB is complex, requiring tailored treatment plans that may include pharmacological treatments, behavioral modifications, and pelvic floor strengthening exercises. The cognitive and psychological dimensions of OAB treatment are critical, emphasizing the need for extensive patient education and emotional support to navigate this challenging condition [4,5].

The interplay between hormonal changes during menopause and the symptoms of OAB continues to be a focal point of ongoing research. This body of work aims to innovate hormone replacement therapies and other strategies to mitigate symptoms and enhance the quality of life for affected women. Recent advancements in the field highlight promising therapeutic options such as neuromodulation and botulinum toxin injections, which represent cutting-edge approaches to effectively managing overactive bladder in postmenopausal populations [6,7].

Aims and Objectives

- To assess the incidence of symptoms of over-active bladder in perimenopausal women.
- To identify and assess the level of awareness regarding genitourinary symptoms like an overactive bladder in apparently asymptomatic perimenopausal women coming to tertiary care hospitals.

Material and Method

A case-control study was carried out at MGM Medical College, Kishanganj (Bihar) involving 100 perimenopausal women who were attending the Obstetrics and Gynaecology Outpatient Department. Before their involvement, all participants submitted written consent after being fully informed. Comprehensive histories were collected from each woman concerning symptoms of an overactive bladder over the last 5 years. Participants were separated into two groups: Group A, which included 50 perimenopausal women experiencing any number of symptoms, referred to as "cases," and Group B, which consisted of 50 perimenopausal women without symptoms, referred to as "controls." A structured questionnaire was used to assess their responses, with a specific focus on urogenital symptoms including urgency incontinence, urgency, frequency of urination, nocturia, and vasomotor symptoms.

Criteria for inclusion:

• Females in the age range of 45 to 50 years.

• Participants have provided their consent.

Exclusion criteria:

- Lack of consent.
- Presence of co-morbidities such as diabetes mellitus, cardiovascular disease, urinary tract infections, mixed incontinence, stress urinary incontinence, overflow incontinence, or post-menopausal status.

The data collected were organised and examined using appropriate statistical tests, such as the Chi-Square test, Fisher's Exact test, and Unpaired T-test. A significance level of 0.05 was used to determine statistical significance.

Observations

	Group A	Group B	P Value
Age	48.12 ± 1.38	47.86 ± 1.64	0.3931 NS

Parity	Group A	Group B	P Value
Primi	2	3	0.646
Multi	48	47	NS

Mode of Delivery	Group A	Group B	P Value
Vaginal	38	35	0.499
C-Section	12	15	NS

In our study, the average age in Group A was 48.12 ± 1.38, and in Group B it was 47.86 ± 1.64, with a non-significant difference observed (p-value 0.3931). In Group A, there were 2 primiparous and 48 multiparous women, while Group B had 3 primiparous and 47 multiparous women, with no significant difference between the groups (p-value 0.646). Regarding delivery mode, 38 women in Group A had vaginal deliveries and 12 had cesarean deliveries, compared to 35 vaginal deliveries and 15 cesarean deliveries in Group B, again with no significant difference noted (p-value 0.499). Overall, our study found no statistically significant disparities in age, parity, or mode of delivery between symptomatic and asymptomatic patients.

Symptoms	Group A	Group B	P Value
Urge Incontinence	15 (30%)	0 (0%)	< 0.0001 HS
Urgency	35 (70%)	0 (0%)	< 0.0001 HS
Frequency	17 (34%)	14 (28%)	0.517 NS
Nocturia	6 (12%)	4 (8%)	0.505 NS
Vasomotor Symptoms	24 (48%)	21 (42%)	0.547 NS

In this study, 15 women in Group A had urge incontinence and 35 indicated urgency. Group B ladies had no similar complaints. With a p-value of less than 0.0001, these findings indicate a significant difference between groups. Urination frequency was similar in Group A and Group B, with 17 and 14 women in each group reporting it (p-value 0.517). In Group A and B, similar numbers of women reported nocturia.

However, there was no significant difference between the two groups (p-value 0.505). There was no significant difference in the presence of vasomotor symptoms between Group A and Group B, with 24 women in Group A and 21 women in Group B experiencing these symptoms (p-value 0.547).

Overall, the study findings indicated a notable disparity in the levels of urgency and urge incontinence observed among the two groups. Nevertheless, there were no notable differences observed between the groups in terms of other symptoms related to overactive bladder, including frequency, nocturia, or vasomotor symptoms.

Discussion

According to a study by Milsom et al. (2014) [10], the prevalence of overactive bladder (OAB) symptoms increases significantly during postmenopausal years, impacting both the storage and voiding phases of the urinary cycle. Hormonal changes, pelvic floor muscle function, and neural regulation intricately contribute to the pathophysiology of postmenopausal OAB [8,9].

The current study aligns with previous research conducted by Chin SN et al. [1], Zhu L et al. [2], Sandvik et al. [3], and Milsom et al. [4], demonstrating the presence of OAB among participants while highlighting low awareness regarding its symptoms and treatment among females. When investigating elderly women with OAB, it's essential to consider comorbidities like constipation, fecal impaction, and mobility issues, which can impact independence. Timely recognition and treatment of these risk factors are crucial for effective management.

In a recent study conducted by Thompson CL et al., the researchers found that urgency was the most frequently reported symptom, with 35.7% of participants experiencing it. Nocturia was the second most common symptom, reported by 33.7% of participants [11]. Espuña Pons and Puig Clota found that the most common symptom was frequency, with a high percentage of patients experiencing it. Urgency and nocturia were also commonly reported symptoms. Similarly, Malla et al. observed that frequency was the most prevalent symptom, followed by nocturia [12,13].

The occurrence of an overactive bladder (OAB) may have observed to differ considerably in the available literature. In a study conducted by Lapitan et al. [14], a prevalence rate of 51% was reported. Similarly, the EPIC study found a prevalence rate of 11.8% [15].

Studies have shown that postmenopausal women may experience a decrease in bladder capacity, weakened detrusor muscle function, and slower urine flow rates [16]. Oestrogen deprivation plays a significant role in the development of urogenital tract atrophy, leading to various symptoms including incontinence, urinary frequency, nocturia, urgency, and recurrent urinary tract infections.

Conclusion

Our study reveals that asymptomatic patients exhibited comparable incidences of frequency, nocturia, and vasomotor symptoms to symptomatic patients. This suggests a lack of awareness regarding the symptoms of overactive bladder within our society. Regardless of symptoms or sexual activity, it is imperative for all women entering perimenopause to undergo a thorough assessment of their urogenital health. Improving patient-physician communication and asking pertinent questions can help achieve this objective.

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