COMPARATIVE STUDY BETWEEN ANTI-INCONTINENCE PESSARY AND IMIPRAMINE IN TREATMENT OF STRESS INCONTINENCE

Engy Mohamed Taher, Wafaa Mostafa Abou El Enien, Tamer Mamdouh Abdel Dayem, Noha Salah Abd Alal Fawaz
Department of Obstetrics and Gynecology, Faculty of Medicine, Alexandria University

Introduction

Stress urinary incontinence (SUI) is defined as involuntary urine leakage resulting from increased intra-abdominal pressure.

Risk Factors for Urinary Incontinence: Multiple risk factors may predispose a woman to urinary incontinence. Risks factors such as age, race/ethnicity, pregnancy/delivery, family history, physical activity, smoking, and obesity are commonly implicated. Urinary incontinence is also associated with pelvic floor disorders including prolapse, irritable bowel syndrome and prior pelvic surgery including hysterectomy.

The female continence mechanism involves three distinct components: the internal urethral sphincter, the external urethral sphincter, and appropriate proximal urethral support. All three aspects must be present to prevent SUI

Treatment Options: The typical approach to treatment of SUI is a stepped care plan that starts with noninvasive behavioral modifications followed by devices and pharmacologic interventions. Surgery is the final step for women having symptoms that do not respond to initial treatment.

Incontinence pessaries are silicone or rubber devices that are placed transvaginally. They are designed to support the urethra and bladder wall, increase urethral length, and provide gentle compression of the urethra against the pubic bone. Pessaryreduces and often prevents leakage when intra-abdominal pressure increases. From this position, an incontinence pessary supports the urethrovesical junction in the same way a vaginal sling implanted surgically.

Imipramine is a tertiary amine tricyclic antidepressant, improve stress urinary incontinence by decreasing the contractility of bladder and increasing the urethral outlet resistance.

Aim of the work

The aim of this study was to compare the safety and clinical efficacy of two treatment modalities, 'Anti-Incontinence Pessary' and imipramine, in relieving symptoms and improving stress urinary incontinence-related quality of life (QoL).

Subjects and Methods

Patients: The study was conducted on 60 patients who experienced stress incontinence. They were recruited from the Urogynecology Outpatient Clinic at the Department of Obstetrics and Gynecology, El Shatby Maternity University Hospital, Alexandria.

• **Phase 1 (Baseline Assessment):** A cross-sectional survey was conducted on SUI patients as a baseline assessment. Enrolled participants had history of stress urinary incontinence and its impact on quality of life using the 'Urogynecology Patient Questionnaire.

• **Phase 2 (Clinical Trial Design:** A parallel-group, non-randomized clinical trial design was employed. One group of women (30) with SUI received intervention A (anti-incontinence pessary), while another group (30) received intervention B (imipramine).

Methods: An informed consent was obtained from all patients after explaining all the steps of the study.

1- History Taking:

- Details of the primary complaint, specifying its duration and frequency.
- Ask if urine leakage occurred during actions like coughing, laughing, or sneezing.
- Collect comprehensive medical, surgical, gynecologic, neurologic, and obstetric histories to eliminate potential alternative causes of urinary incontinence.
- Document the list of medications, recognizing that certain drugs can influence lower urinary tract function.
- A questionnaire based on urogenital distress inventory (UDI-6) and incontinence impact questionnaire (IIQ-7).

2-Physical Examination: Each woman with urinary incontinence underwent general and gynecologic examinations. The pelvic exam should be conducted with the patient in the dorsal lithotomy position. Following the initial resting vaginal examination, the patient was instructed to perform a Valsalva maneuver or cough, allowing the examiner to observe for signs of vaginal relaxation or urine leakage.

Examination Items and Investigations Included:

-Assessment of body mass index.

-- Complete urine analysis and urine culture.

- Ultrasound was utilized to measure post void residual (PVR) urine.
- The cough stress test was performed, during which the clinician observed for urine leakage when the patient coughed or bore down.

Urodynamics Studies:

In this study, we conducted filling cystometry as part of the urodynamics test.

- SUI was diagnosed when involuntary leakage was seen as a result of an increase in intra-abdominal pressure without detrusor contraction.

Results

Table 1: Comparison between the two groups as regards VLPP

VLPP	Anti-Incontinence Pessary	Imipramine	T	P value
Before	n = 30	n =30		
Range	50–100	50–95	1.403	0.166
Mean±S.D.	73.77±15.819	68.13±15.283		
After	n = 3	n = 8		
Range	95–100	80–98	2.902	0.018*
Mean±S.D.	97.67±2.517	87.88±5.489		
P value	0.422	0.009*		

Table 2: Comparison between the two groups as regards improvement in symptoms using urogenital distress inventory questionnaire total score

	Anti-Incontinence Pessary (n = 30)	Imipramine (n = 30)	U	P value
Pre-Intervention assessment				
Range	5-16	4-15	338.50	0.097
Mean±S.D.	11.17±3.395	9.70±2.902		
Post-Intervention assessment				
Range	1-8	1-15	211.50	<0.001*
Mean±S.D.	2.67±1.446	4.93±3.413		
P value	<0.001*	<0.001*		

Conclusion

Based on our findings, the post-intervention assessment demonstrated significant improvement in the pessary group compared to the imipramine group. A successful fitting pessary emerged as the key factor for ensuring ongoing usage. Additionally, patients experienced notable enhancements in their quality of life and emotional well-being as their stress urinary incontinence (SUI) symptoms improved with pessary use. In contrast, imipramine showed no significant effect on SUI, further underscoring the efficacy of pessary intervention in managing this condition.