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Original Research

Comparison of tamsulosin versus estrogens in the treatment of lower urinary tract symptoms in perimenopausal females

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ABSTRACT

Background: Lower urinary tract symptoms (LUTS) in perimenopausal female are mainly due to urethral stenosis. The present study was conducted to compare alpha-1a blockers (tamsulosin) versus estrogens in the treatment of lower urinary tract symptoms in perimenopausal females. **Materials & Methods:** 74 perimenopausal females between the age group of 45 and 60 years who present with the symptom of voiding LUTSwere divided into two groups. Group I was given alpha-blocker (tamsulosin) and group II was given topical estrogen application (0.5%–1%) in the periurethral region. Patients were followed up clinically by voiding components of the international prostate symptom score and objectively by uroflowmetry and postvoid residual (PVR) urine estimation (ultrasonography). **Results:** Pre- treatment Qmax in group I was 7.4 and in group II was 7.1 and post- treatment Qmax in group I was 18.2 and in group II was 10.5. The difference was significant (P< 0.05). Pre- treatment PVR in group I was 120.5 ml and in group II was 124.6 ml and post- treatment PVR in group I was 36.8 ml and in group II was 110.4 ml. The difference was significant (P< 0.05). **Conclusion:** Alpha-1a blockers should be used as the first-line medical management in perimenopausal females with symptoms of LUTS, as they have a clear advantage over topical estrogens.

Key words: Alpha-1a blockers, tamsulosin, Lower urinary tract symptoms

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INTRODUCTION

Lower urinary tract symptoms (LUTS) in perimenopausal female are mainly due to urethral stenosis. There are problems of bladder outlet obstruction and impaired contraction of the detrusor in patients of chronic urinary retention. In these women, treatment options are based on urethral dilatation and catheterization.[1]Menopause can be divided into three stagespremenopause, corresponding to the late reproductive phase; perimenopause, divided into early and late menopausal transition; and postmenopause, either early or late menopause, whose individualization and duration are not linear.[2]The first stage is characterized by regular menstrual cycles and increasing levels of follicle-stimulating hormone (FSH). The second one is characterized by variability in menstrual cycle length and increased levels of FSH. At this stage women have skipped cycles or amenorrhea of at least 60 days and continued elevation of FSH. The last stage is characterized by high FSH levels and a decline in serum estradiol levels).[3]

Vasomotor, genitourinary and emotional symptoms arise during this stage. Among the genitourinary symptoms is the presence of lower urinary tract symptoms (LUTS).[4,5] These are considered subjective indicators of changes perceived by women, classified as storage symptoms (polyuria, nocturia, urinary incontinence, urgency urinary incontinence, mixed urinary incontinence, urinary exertional incontinence, nocturnal enuresis, and continuous urinary incontinence), urinary symptoms (weak urinary stream, intermittent urinary stream, hesitation, straining and terminal dribble) and post-micturition symptoms (feeling of incomplete emptying and post-micturition dribble), in addition to coitus-related

symptoms (dyspareunia and vaginal dryness).[6]The present study was conducted to compare alpha-1ablockers (tamsulosin) versus estrogensin the treatment of lower urinary tractsymptoms in perimenopausal females.

MATERIALS & METHODS

The present study comprised of 74 perimenopausal females between the age group of 45 and 60 years who present with the symptom of voiding LUTS. All gave their written consent to participate in the study. Data such as name, age etc. was recorded. Patients were divided into two groups. Group I was given alpha-blocker (tamsulosin) and group II was given topical estrogen application (0.5%–1%) in the periurethral region. Patients were followed up clinically by voiding components of the International Prostate Symptom Score and objectively by uroflowmetry and postvoid residual (PVR) urine estimation (ultrasonography).Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I: Comparison of Qmax in both groups

Groups	Pre- treatment	Post- treatment	P value
Group I	7.4	18.2	0.01
Group II	7.1	10.5	0.03

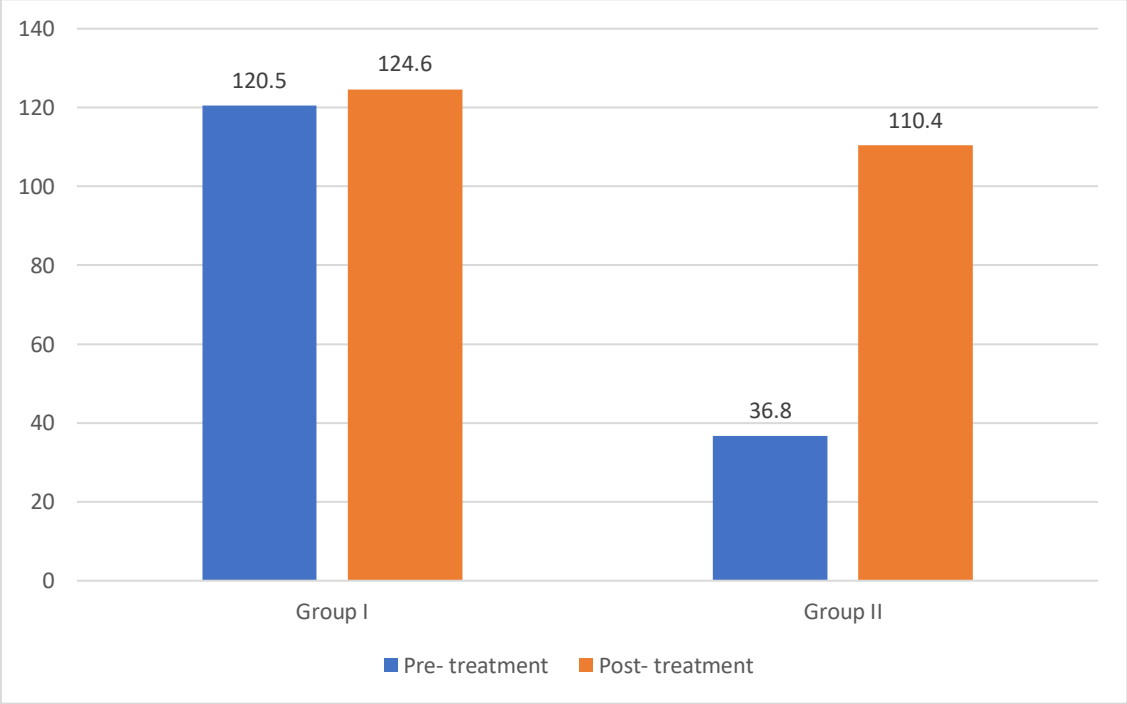
Table I shows that pre- treatment Qmax in group I was 7.4 and in group II was 7.1 and post- treatment Qmax in group I was 18.2 and in group II was 10.5. The difference was significant (P< 0.05).

Table II: Comparison of postvoid residual in both groups

Groups	Pre- treatment	Post- treatment	P value
Group I	120.5	124.6	0.01
Group II	36.8	110.4	0.03

Table II, graph I shows that pre- treatment postvoid residual in group I was 120.5 ml and in group II was 124.6 ml and post- treatment postvoid residual in group I was 36.8 ml and in group II was 110.4 ml. The difference was significant (P< 0.05).

Graph I: Comparison of post void residual in both groups



DISCUSSION

Urinary tract infection (UTI) is a common and costly health problem among women that is usually due to Escherichia coli.[7] The causative E. coli strain often can be found in the woman's faecal flora at the time of a UTI episode.[8,9] This observation has suggested the 'faecal–perineal–urethral' hypothesis for UTI pathogenesis in women, according to which the host's own faecal flora is the immediate external reservoir from which E. coli strains emerge to cause UTI.[10,11]The present study was conducted to compare alpha-1ablockers (tamsulosin) versus estrogensin the treatment of lower urinary tractsymptoms in perimenopausal females.

We found that pre- treatment Qmax in group I was 7.4 and in group II was 7.1 and post- treatment Qmax in group I was 18.2 and in group II was 10.5. Maiti et al[12]compared the efficacy of alpha-blockers versus topical estrogen in the treatment of LUTS in perimenopausal females.All perimenopausal females between the age group of 45 and 60 years who present with the symptom of voiding LUTS were divided into two groups. Acute urinary retention patients were excluded from the study. The first group was given alpha-blocker (tamsulosin) and other group was given topical estrogen application (0.5%–1%) in the periurethral region. Patients were followed up clinically by voiding components of the International Prostate Symptom Score and objectively by uroflowmetry and postvoid residual (PVR) urine estimation (ultrasonography).Alpha-blocker group had 40 females and topical estrogen group had 40 females. During the 6-week period, 8 patients of the first group and 6 patients of the estrogen group discontinued the treatment. In the first group, pretreatment mean Qmax (maximum flow rate) of patients was 7.2 ml/s and posttreatment Qmax was 18.4. In the second group, the values were 7.4 ml/s and 10.2, respectively. This difference was statistically significant ($P < 0.0001$). In the first group, pretreatment PVR urine was significant, which became insignificant after the treatment, whereas in the second group, PVR was significant posttreatment also.

We found that pre- treatment postvoid residual in group I was 120.5 ml and in group II was 124.6 ml and post- treatment postvoid residual in group I was 36.8 ml and in group II was 110.4 ml. Moreno et al[13]compared the biotype, phylogenetic group, and virulence genes of Escherichia coli urine strains from 11 women with acute lower UTI with those of the host's dominant intestinal E. coli strain(s). Twenty-one unique E. coli clones were identified. For three women, the single faecal clone identified was also the host's urine clone, whereas for eight women faecal samples yielded 1 or 2 distinct non-urine clones (total, n=10), either with (n=3) or without (n=5) the concurrent urine clone. The eight urine clones from the latter eight women exhibited significantly greater inferred virulence, according to virulence gene content and phylogenetic background, than did the hosts' 10 corresponding 'faecal only' clones. In contrast, the three urine clones that were detected as the host's sole faecal clone exhibited significantly lower inferred virulence than the other eight urine clones, and were statistically indistinguishable from the 10 'faecal only' clones.

Pischeddaet al[14]administered tamsulosin, an alpha1A/alpha1D-selective adrenergic antagonist, in women with functional bladder neck obstruction to evaluate its potential therapeutic effects.A group of 18 women affected by functional bladder neck obstruction was selected. The diagnosis was made by means of a pressure/flow study combined with electromyography and a fluoroscopic test. The diagnostic criteria were: high detrusor pressure with reduced maximum flow, silent electromyography activity, and bladder neck nonfunnelling during the fluoroscopic test. Tamsulosin 0.4 mg once daily was administered for at least 30 days. Patients with a postvoid residual urine volume > or = 100 ml performed intermittent self-catheterization. Patients with a postvoid residual urine volume < 100 ml performed self-catheterization every 7 days. After 30 days of therapy, all patients underwent a new pressure/flow study and a micturition fluoroscopic test.10 (56%) out of 18 treated patients showed a statistically significant improvement in symptoms, maximum flow, and postvoid residual urine volume ($p < 0.01$).The use of alpha1-blockers may be an initial treatment option for female functional bladder neck obstruction, as this therapeutic option proved to be effective in more than 50% of our patients suffering from this voiding dysfunction.

The limitation the study is small sample size.

CONCLUSION

Authors found that alpha-1a blockers should be used as the first-line medical management in perimenopausal females with symptoms of LUTS, as they have a clear advantage over topical estrogens.

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