Medical therapy for overactive bladder syndrome by two optional regimens

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Abstract: To evaluate Overactive bladder (OAB) with detrussor overactivity (DOA) following Oxybutinin 5mg x3 or tolterodine 2 mg x2 daily treatment at the 4-week course. One hundred Iranian old women (>45 years old)with clinical symptoms of OAB who show IDO in the filling cystometry participated in this randomized double-blinded parallel-group by using two kinds of the drugs for 4- week course [oxybutinin 5mg×3 or Tolterodin 2mg×2] in alike package . We collected data from 3-day FVC before and after the treatment course. The effectiveness of each drug was compared using the paired, samples t-test. Positive changes in urinary urgency, Frequency and Urge incontinence after treatment in both groups were seen but mean improvements in the all were larger in the patients who treated by oxybutinin especially in terms of urgency and Urge incontinence . As the conclusion: four week treatment with oxybutinin 5 mgr x 3 was better than tolterodine IR 2 mgr x 2 in improving urgency and urge incontinence but there were not statistically significance between them. Difference in the symptoms of patients which reduce their quality of life in planning a course of treatment especially in the elderly should be considered.

Keywords: Over Active Bladder, Oxybutynin, Tolterodine, Frequency Volume Chart, Urodynamic Study

1. INTRODUCTION

Oxybutynin and Tolterodin are two highly effective anticholinergic drug suitable for the treatment of overactive bladder syndrome (OAB). Each one of drugs has a different specificity to bladder muscarinic receptors, thus different adverse effect profiles be considered. Additionally different individuals experience the symptoms of OAB and the adverse effects to different extents therefore quality of life is affected differently in the patients with OAB. Previous findings supported of similar efficacy of both drugs in the different types and doses in improvement the symptoms of OAB. But for reduction the adverse side effects, tolterodin was recommended and oxybutinine could be used to minimize costs(1-8').Determining the lowest therapeutic dose of the drugs results in deciding between different preparations regarding to the prominat symptom, cost and adverse effects. This study was designed to determine the effectiveness of oxybutinin (3 x 2.5mg IR tablet daily) vs tolterodin(2 x 2 mg IR table daily) in treatment of the OAB.

2. MATERIALS EXPERIMENTAL

2.1. Materials and methods:

In this randomized, double-blind, parallel-group, trial conducted in Vali-Asr hospital- Tehran- Iran, female outpatients aged >or=45 years with documented over active bladder syndrome [(urinary frequency (>or=8 micturitions/24 hours) plus urge incontinence (>or=5 episodes/week)] who show Idiopathic detrossur

overactivity (IDO) in the filling cystometry were randomized to receive oral treatment with oxybutynin hydrochloride 5 mg TID or Tolterodin 2mg BD for 4 weeks. We collected data from 3-day FVC, before and after the treatment course. The effectiveness of each drug was compared using the paired, samples t-test.

3. RESULTS AND DISCUSSION:

100 women aged 53 ± 12 years were included. Mean subjective daytime and night-time frequency, urgency and incontinency significantly decreased after treatment in both groups.

On a 3-day frequency-volume chart, the daytime frequency of patients significantly decreased 22%(P=.000) after treatment with oxybutinin and the night-time frequency of these patients decreased about 24.3%(P=.035).

In the other group, the daytime and the night-time frequency of patients significantly decreased 16.4 %(P=.000) and 17.6%(P=.006) .The evaluation of urinary urgency showed significant decrease in both groups. The urinary urgency and nocturnal urinary urgency were decreased by 58.8% (P=0.008) and 39.7% (P=0.001), respectively in Oxybutinin group and 41.8% (P=0.000) and 39.1% (P=0.001), respectively in Tolterodine group. There was a significant decrease in sensation severity of urinary urgency by 46.7% (P=0.003) in Oxybutinin group and 39.7% (P=0.002) in Tolterodine group respectively.There was a statistically significant decrease in episodes of incontinence with oxybutinin (46.7%; P = 0.001) also a significant decrease in patients treated with tolterodine (39.7%; P = 0.002). Different patients experience the symptoms of OAB (frequency,urgency,urge incontinency) to different extents.These finding support of selection the drug regarding to improve the prominent complaints that affect quality of life in people with OAB especially in elderly(1,2). Therefore researches are being conducted on different types and the lowest therapeutic dose of anticholinergic drugs.

Treatment with oxybutynin and tolterodin in different types (immediate-release or extended-release tablets) have shown a similar efficacy in improving urination diary variables in patients with overactive bladder(7,8,9,10).

Previous studies said the discontinuation rates caused by adverse events were similar between the two formulations. But ER preparations are more expensive than the others (10).

In addition to similar efficacy and adverse effects, cost and the effect on the most prominent symptom have essential roles in choosing the appropriate treatment.

There is a trend for detecting the lowest therapeutic dose of anticholinergic drugs in the treatment of OAB in elderly because of usage the other drugs with anticholinergic effects in 32% of elderly to avoid of cumulative adverse effects (11) . There were not statistically significant differences between the different doses of oxybutinin and tolterodin [5 vs10 mg ER tablet of oxybutinin (4,10) ,3 x 5mg IR tablet of oxybutinin vs 2 x 2mg IR tablet of tolterodin(7,8,10),2 x 2 mg IR tablet vs 4mg ER of tolterodin (9,10)].

Although differences were found in the length of the studies but regarding to achieve an appropriate improvement in OAB symptoms ,the 4-week treatment course was recommended (9,10).

Also more severe and frequent dry mouth episodes was seen in whom took oxybutynin IR compared

with other preparations.In this study 3 x 2.5mg IR tablet of oxybutinin used and statistically significant differences for improvement in frequency,urgency and urge incontinence episodes were seen.
This recommended dose of oxybutinin (3 x 5mg IR tablet) is associated with the therapeutic effect next to the fewer adverse effects, especially dry mouth, and may thus be preferable.
In this study, the adverse events resulted in discontinuation the study were similar between the two groups. This result is in contrast to the others said tolterodine has fewer adverse effects in the old patients than oxybutinin (7,10).Thus determining the lowest therapeutic dose of the drugs result in deciding between different preparations regarding to cost effectiveness and decreased adverse effects.

Positive changes in urinary urgency, Frequency and Urge incontinence after treatment in both groups were seen but mean improvements in the all were larger in the patients who treated by oxybutinin especially in terms of urgency and Urge incontinence . Urgency in 54% and urge incontinence in 36% of patients with OAB were seen(11) .Patients with OAB who complain of urgency or urge incontinence as the more prominent symptom, choosing the oxybutinin regimen should be recommended. The current studies have implemented using FVCs of ≥ 3 days can be used to monitor therapeutic outcomes of drugs in OAB (12). Our data collected from micturation diaries of 3 days recorded by the patients had been educated by a selected GYN resident.It is recommended that if this method is used, the patients must be trained and monitor for chart fulfilling method in a continuous manner .

In conclusion, difference in the symptoms of patients which reduce their quality of life in planning a course of treatment especially in the elderly should be considered. Physicians should consider the patients prominent symptom in selection a kind of antimuscarinic drug for the treatment of overactive bladder syndrome especially in elderly patients.

ACKNOWLEDGMENTS
There is no conflict of interest among the author and pharmaceutical companies.

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