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Takahashi S[1], Takeuchi T[1], Tomita K[1], Homma Y[1], Kitamura T[1]
1. Dept. of Urology, Tokyo University

THE CLINICAL EFFICACY OF NAFTOPIDIL ON OVERACTIVE BLADDER IN PATIENTS WITH BENIGN PROSTATIC HYPERPLASIA

Aims of Study

Naftopidil ((±)-1-[4-(2-methoxyphenyl)piperazinyl]-3(1-naphthyloxy)propan-2-ol) is an alpha-1 adrenoceptor blocker which acts more selectively on the lower urinary tract than on the blood vessels. Naftopidil shows high affinity for alpha-1A and 1D adrenoceptor subtypes, which are both expressed in human prostate and bladder. Significantly, the predominant subtype mRNAs in prostate and bladder have been reported to be alpha-1A and 1D, respectively (Nasu 1996, and Malloy 1998). Therefore, it can be assumed that naftopidil improves irritative bladder symptoms as well as obstructive symptoms derived from benign prostatic hyperplasia (BPH). In the present study, we evaluated the efficacy of naftopidil on overactive bladder (OAB) in patients with BPH, using Frequency/Volume charts (FVC).

Methods

The study was conducted at 11 centers. A total of 66 patients with BPH (54 to 91 years, mean age 68.6 years) were studied. The inclusion criteria were; 1) a score of eight or more points on the International Prostate Symptom Score (I-PSS), 2) three or more points in any of the scores for 3 items (frequency, nocturia, and urgency) of I-PSS that assess irritative symptoms. The ethics committee of the hospital approved this study and informed consent was obtained from each patient. The patients received 50-75 mg/day of naftopidil for six weeks. All the patients were examined for FVC (number of voids during the daytime and nighttime, mean urine volume/void, and mean urine volume/day) before and after the 6-week administration of naftopidil. I-PSS, QOL score, and Uroflowmetry were also evaluated before and after the administration.

Results

After the administration of naftopidil for 6 weeks, I-PSS total scores decreased significantly from 18.7 to 11.1 points ($p<0.001$). Both irritative and obstructive symptom scores showed significant improvements (both $p<0.001$). The score for urgency, which indicates the existence of OAB significantly decreased from 3.0 to 1.7 ($p<0.001$). QOL score also improved from 4.6 to 3.2 ($p< 0.001$). In objective findings , the maximum flow rate increased from 10.2 to 12.4 ml/s ($p< 0.05$).

Number of voids during the daytime and nighttime decreased from 9.5 to 8.5 ($p<0.01$) and from 2.6 to 2.0 ($p<0.001$), respectively. Mean urine volume/void increased from 165.3 to 182.6ml ($p<0.001$). Number of voids during the nighttime decreased from 3.3 to 2.5 in 47 patients who suffered from nocturia (2 times or more), ($p<0.001$). Nocturnal polyuria may also cause nocturia. Therefore, we defined the patient whose nocturnal polyuria index (nocturnal urine volume/ 24-hour urine volume) was greater than 0.35 as a case with nocturnal polyuria. We found that 19 patients met this criterion. Interestingly, these patients showed an improvement in their nocturia that was comparable to the cases without nocturnal polyuria ($p<0.01$).

Conclusions

These results suggest that naftopidil, an alpha-1A and 1D adrenoceptor blocker improves not only obstructive symptoms but also OAB symptoms. Naftopidil may be effective for nocturia in patients with BPH, regardless of the existence of nocturnal polyuria.

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