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ANALYSIS OF INITIAL BASELINE CLINICAL PARAMETERS PREDICTING MEDICAL TREATMENT FAILURE OF BENIGN PROSTATIC HYPERPLASIA.

Hypothesis / aims of study
It was demonstrated well that treatment with a1-blocker and 5a reductase inhibitor provides symptomatic improvement in patients suffering from benign prostatic hyperplasia (BPH). However, medical treatment has its limitation of possible long-term failure rates and probability of switching to surgery. The aim of this study is to determine the baseline parameter which can predict the failure of medical treatment in symptomatic BPH patients.
Study design, materials and methods
From January 2004 to December 2007, medical records of 677 BPH patients who received at least three months of medical treatment were reviewed. Patients were divided either as medical treatment maintenance or failure group. Medical failure was defined as a condition where the patients had BPH operation due to acute urinary retention or unsatisfactory effects with BPH medication. Patients initially were examined the International Prostatic Symptom Score (IPSS), prostate volume, maximal flow rate (Qmax), postvoid residual volume (PVR) and the serum prostate specific antigen (PSA) as clinical baseline factors. The factors were compared between maintenance and failure group.
Results
Of the total subjects, 516 (76.2%) patients were able to maintain medical treatment during follow up. whereas 161(23.8%) patients were regarded as medication failure. The significant risk factors of medical failure were age, IPSS, Qmax, PVR, prostate volume and transitional zone volume of the prostate. The medical failure group had shorter medication treatment period and tend to had combination medication with a1-blocker and 5a reductase inhibitor. Initial BUN/creatinine and PSA were not significantly different between two groups.
However, in subgroup analaysis, medical failure rate were significantly higher in subjects with PSA higher than 1.5 ng/ml.

Parameters	Medical failure group (n=161)	Medical maintenance group (n=516)
Age (years)	66.4±7.4*****	62.2±7.7
Medical disease co-morbidity	36 (22.7%)	98 (18.9%)
BPH medication period(mon)	7.4± 5.9	16.8 ± 9.1*
Medical treatment type		
a-blocker monotheraphy	65 (40.4%)	342 (66.3%)*
Combination therapy	96 (59.6%)*	174 (33.7%)
Initial IPSS	21.8±6.5*	16.4±7.1
Follow up IPSS change	-3.1±0.6	-7.8±0.4*
BUN (mg/dl)	16.3±4.2	15.9±.4.4
Creatinine (mg/dl)	1.1±0.3	1.0±0.2
PSA (ng/ml)	3.1±0.4	1.5±0.3
Qmax (ml/sec)	10.1±5.7	12.0±2.7*
Residual vol (ml)	59.0±37.5*	46.0±38.2
Prostate vol (g)	52.4±21.9*	32.1±19.0
Transitional zone vol (g)	26.6±17.3*	20.3±16.7

*: significantly higher (p>0.05)

Interpretation of results
It is well established that higher PSA and larger prostate is the risk factors of BPH progression. In our study, the risk factors of BPH medication failure were various including age, IPSS, transitional zone volume. In subgroup analaysis, subjects with PSA higher than 1.5 ng/ml tend to have more medical failure. It might be necessary to consider more invasive treatment modality for the patients with high risk factor of medical failure.
Concluding message
The results showed that the risk factors of medical treatment failure of BPH were old age, worse IPSS score, Qmax, PVR and larger prostate volume as well as durations of medical treatment and rate of combination treatment. Detailed factor analysis should be needed with the well established guideline for the indication of early invasive treatment for predictive BPH medication failure group.

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Is this a clinical trial?	**Yes**
Is this study registered in a public clinical trials registry?	**No**
What were the subjects in the study?	**HUMAN**

Was this study approved by an ethics committee?	**Yes**
Specify Name of Ethics Committee	**Korea University Medical Center Ansan Hospital IRB**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**