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[\[PDF \(298K\)\]](#) [\[References\]](#)**Relationship between lower urinary tract symptoms and urinary ATP in patients with benign prostatic hyperplasia or overactive bladder**[Kimio Sugaya](#)<sup>1)2)</sup>, [Saori Nishijima](#)<sup>2)3)</sup>, [Katsumi Kadekawa](#)<sup>2)3)</sup>, [Minoru Miyazato](#)<sup>3)</sup> and [Hideki Mukouyama](#)<sup>4)</sup>

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**ABSTRACT**

We investigated whether the improvement of lower urinary tract symptoms (LUTS) and urinary adenosine triphosphate (ATP) level were related. Fifty-seven patients and 13 normal controls were enrolled in this study. All of the male patients had benign prostatic hyperplasia (BPH), and all of the female patients had overactive bladder (OAB). We administered an alpha-1 adrenergic receptor antagonist (tamsulosin hydrochloride) for BPH, while OAB patients received an anti-muscarinic agent (propiverine hydrochloride). Before and after treatment, we examined LUTS and urinary ATP/creatinine ratio. The urinary ATP/creatinine ratio was lower in males than females in both controls and patients. In the BPH patients, administration of the alpha-1 receptor antagonist decreased LUTS and urinary ATP/creatinine ratio, and improvement of LUTS was greater in patients with a high baseline urinary ATP level. In the OAB patients, administration of the anti-muscarinic agent decreased LUTS and urinary ATP/creatinine ratio, and improvement of LUTS was greater in patients with a high baseline urinary ATP level. Improvement of LUTS by treatment with the alpha-1 receptor antagonist or the anti-muscarinic agent was related to the decrease of urinary ATP/creatinine ratio in patients with BPH or OAB. Measurement of urinary ATP can be used as a marker of pathologic bladder function.

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