

AB033. Testosterone and nocturia

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Abstract: Nocturia is a major problem in the elderly and can be caused by a range of urologic and nonurologic conditions. Age-associated physiologic, structural, hormonal, and histologic changes play an important role in the increasing incidence of nocturia in elderly patients. Benign prostate hyperplasia (BPH) has been suggested as the main factor triggering nocturia, and therefore, efforts have focused on alleviating BPH through medical or surgical treatment. Although male lower urinary tract symptoms (LUTS) have traditionally been attributed to BPH, many evidences has shown that LUTS in some male patients might be derived from the bladder or systemic conditions. Recent investigations have reported that factors such as aging, late onset hypogonadism (LOH), and sleep disturbances are associated with nocturia. An increased prevalence of nocturia in elderly men is also caused by many factors other than BPH. Impaired kidney responsiveness

to arginine vasopressin (AVP) and disrupted circadian nocturnal AVP secretion has been reported as a possible mechanism of nocturnal polyuria in older patients. Lack of sleep because of nocturia affects normal physiological actions in the human body, especially testosterone secretion. It is mostly secreted in the early morning and decreases to its minimum level after sleep. Therefore, sleep disturbances are believed to affect the pulsatile secretion of testosterone, and when sleep disturbances improve, testosterone secretion is expected to improve as well. Currently, it has not yet been revealed which of the following occurs first: nocturia-induced stress decreases testosterone levels or age induces decreased testosterone levels, which causes nocturia. Although the mechanism of action is still unknown, we suggest that desmopressin could correct disturbances of the circadian regulation of testosterone secretion. Because many factors are involved in testosterone and nocturia, further studies are needed to confirm our findings.

Keywords: Nocturia; testosterone; lower urinary tract symptoms (LUTS)

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