

The Methodology for Conducting Androgen-Replacement Therapy in Patients with PADAM

Introduction and Objective: An age-related decrease in the quantity of pluripotent stem cells interrupts the processes of tissue renewal.

Materials and Methods: Atrophic and fibrous changes take part in all tissues and organs among people of older age groups, including tissues of endocrine organs. The approximately equal speed of the decrease in the pool of pluripotent stem cells with age (about 1% per year) determines the equal intensity of the accumulation of tissue-connecting components. The average speed of the decrease in common testosterone level among men of older age groups is similar to the speed of the decrease in pluripotent stem cells. The endocrine system is a continuation of the central nervous system. The information of the CNS, transmitted in the form of nerve impulses which come one after another at a certain frequency, is transformed into the pulse rhythm of hormone production (Pechersky A.V. et al., 2004). Incretion of the majority of hormones of the posterior pituitary has an impulse character. Among older men, one can see a reduction in the amplitude of peaks and an increase in the frequency of discharge of LH, as well as analogous violations of the impulse incretion of testosterone.

Results: These changes lead to limitation and distortion of the information transmitted which regulates a whole series of physiological processes. The development of PADAM is accompanied by a breakdown in the impulse regime of hormone incretion has a direct influence on the level of cell growth factors, and, on cell proliferation (Pechersky A.V. et al., 2002, 2004, 2006). The daily dose of testosterone which enters the blood plasma when conducting androgen-replacement therapy among patients with PADAM should not exceed the loss of testosterone production that comes with age. Prescribing a large dose of the preparation leads to suppression of the body's own testosterone production while losing the rhythm of incretion.

Conclusion: When calculating the daily dose of testosterone, one must take into account the average daily production of testosterone in men: 7 mg/day (Morales A. et al., 2006). One should also take the age-related decrease in testosterone production of 1% per year on average after 35 - 40 years of age for common testosterone into account. Androgen replacement therapy must be conducted continually (Pechersky A.V. et al., 2008, 2010).