

Editorial referring to the paper published in this issue on pp. 397–404

## PADAMboom!!!

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Testosterone (T) is not just another hormone: it is endocrinologic dynamite. Testosterone supplementation at low levels is passionately and controversially discussed among health care professionals and lay people alike, giving it a cultural, social and even a political dimension. The problem arises with decreasing levels. With an incidence of 6% in middle-aged men [1], late-onset hypogonadism (aka: PADAM = Partial Androgen Deficiency of the Aging Male) can be frequently discovered in clinical practice. Unfortunately, the relationship between serum testosterone levels and clinical symptoms is a bit hazy. It appears that a substantial proportion of men with low T lack clinical symptoms whereas a high number of men with clinical symptoms have T levels within the normal range. However, the likelihood of symptoms increases with decreasing testosterone [2]. Facing PADAM, second thoughts regarding treatment seem to be commonplace. Is replacement really necessary? Isn't there more harm than good to it? Definite randomized controlled trials to answer these questions are lacking, so uncertainty lays the ground for speculations. Fueled by many sources, including the media, testosterone is about to become the villain of hormones. The negative connotations include fear of cancer, images of doping scandals, of humongous body builders or the money-greedy pharmaceutical industry. In February this year, the New York Times wrote: "Drug companies have shamelessly pushed the notion, to doctors and to the public, that their testosterone-boosting product can overcome a supposed disease called 'low T,' which is characterized by feelings of fatigue, loss of sexual drive, depressed moods, an increase in body fat and decrease in muscle strength, among other symptoms" [3].

The story behind is a publication in JAMA reporting an increased risk of myocardial infarction, stroke and mortality with testosterone replacement therapy [4]. This study has been heavily criticized for methodological flaws by numerous experts in the field [5, 6, 7]. So what is the lesser of the two evils: live with low testosterone or live with the supposed dangers of testosterone supplementation? Results from the EMAS study indicate, that there is a 5-fold increased risk of all-cause mortality in men with severe PADAM [8]. What about cardiovascular events with T replacement? Besides the afore mentioned study of Vigen et al. there are data showing an increased cardiocascular risk in older men with limitations in mobility and high prevalence of chronic disease [9]. In summary of the evidence however, Traish et al. come to the conclusion that the cardiovascular benefits of T therapy outrun the risks with a substantial reduction in mortality [5].

What actually happens in the body when PADAM develops and the detrimental effects of this development are outlined in detail in a summary by Alexander Pechersky in this issue of the Central European Journal of Urology [10]. Thus, extragonadal testosterone production is responsible for a more difficult diagnosis in some cases. He proposes not only an algorithm for diagnosis but also for individualized treatment. These two aspects alone make the article worth reading since this piece of information cannot easily be found in the literature. Additionally, the author gives a thorough description of the changes on cellular level that occur during andropause, interrelating testosterone to overall bodily function. He outlines the frightening, yet fascinating scenario of an explosion taking place due to the lack of testosterone: PADAMboom!!!

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**References**

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