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AB089. Impaired adenosine signaling influences erectile function in aging rats

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Background: As one of the most common disorders in old adult, erectile dysfunction (ED) remains attracting andrological physicians' attention. The aim of this study is to investigate the alterations of adenosine signaling in the penis of aging rats, and the influence to erectile function.

Methods: According to apomorphine test, the aging rats (18 months) with ED were selected as age-related erectile dysfunction (A-ED) group, and the young rats (2 months) were selected as normal control (NC) group. The intracavernosal pressure (ICP) measurements were conducted to evaluate the penile erectile function. Quantitative real-time polymerase chain reaction (RT-PCR) and Western Blot were used to detect the expression levels of genes and protein related to adenosine signaling in penis.

Results: Compared to NC group, the outcomes of ICP showed a decreasing trend in A-ED group. Expression of adenosine A2B receptor, adenosine deaminase (ADA), and phosphodiesterase type 5 (PDE5) were increased in A-ED group, and AMP deaminase type 1 (AMPD1) and 2 (AMPD2) were decreased in A-ED group. The results of Western Blot also showed an increasing trend of A2B receptor in A-ED group.

Conclusions: Rats with erectile dysfunction showed an impaired adenosine signaling, our study may provide a new sight for further study to improve the erectile function of A-ED patients.

AB090. Tobacco smoking and erection dysfunction: a systematic review

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Background: The aim of this review was to investigate the correlation between smoking and erectile dysfunction (ED). **Methods:** ISI Web of Science, PubMed and Google Scholar databases (until June 2017) were searched for relevant publications on the correlation between smoking and erectile dysfunction.

Results: A total of 163 studies were reviewed. Tobacco smoke, an aerosol produced by the incomplete combustion of tobacco, is proved to be harmful to several organs. A wealth of researches showed tobacco smoking is a high-risk factor for ED. Multiple human studies and animal researches analyzed the correlation and possible mechanism between smoking/nicotine and ED.

Conclusions: Almost all the researches showed the clear evidence that tobacco smoking is indeed quite harmful to erectile function. Dose-response relation also confirmed that long term or high quantity of nicotine intake may lead to higher incidence of ED. Smoking may impact on penile vascular endothelial cells and the release of acetylcholine in cerebral cortex. Multiple signal pathways are involved in the smoking-induced ED. Researches also revealed that smoking cessation could, to a certain extent, improve erectile function.

Keywords: Tobacco smoking; erectile dysfunction (ED); mechanism

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