

AB095. Antioxidant and antifibrotic effect of a herbal formulation *in vitro* and in the experimental andropause via Nrf2/HO-1 signalling pathway

Woong Jin Bae, Guan Qun Zhu, Sae Woong Choi, Hyun Cheol Jeong, Fahad Bashraheel, Su Jin Kim, Sae Woong Kim

Seoul St. Mary's Hospital, Seoul, South Korea

Background: A Korean herbal formulation, Ojayeonjonghwan, is used to treat late-onset hypogonadism (LOH) symptoms including erectile dysfunction (ED). A previous research suggested that a modified Ojayeonjonghwan (KH-204) could be used as an alternative to treatment for ED. Pharmacological effects of KH-204 were examined in different conditions, including *in vitro* and *vivo* (an androgen-deprived rat model).

Methods: We measured the survival rate of TM3 Leydig cells treated by KH-204 under the oxidative stress condition. The s.c. injection of leuporelin was used to induce the androgen-deprivation. We removed and weighed the testes and epididymides, which would be used to histopathological examination, from the rats in experimental and control groups. Furthermore, we also measured serum testosterone levels, oxidative stress and apoptosis.

Results: The results of treated by KH-204: (I) preserved TM3 cells from oxidative stress by improving the expression of nuclear factor erythroid 2-related factor 2 (Nrf2)/heme oxygenase-1 (HO-1); (II) lowered the expression of Transforming growth factor-beta (TGF- β) 1/SMAD; (III) increased the average of serum testosterone in androgen-deprived male rats; (IV) kept the activation of spermatogenesis; (V) upgraded contents of 8-hydroxy-20-deoxyguanosine (8-OHdG) and degraded contents of superoxide dismutase (SOD); and (VI) meaningfully reduced apoptosis.

Conclusions: We studied the efficacy of KH-204 as an alternative therapy to improve testicular dysfunction in LOH. The efficacies of KH-204 are likely, at least in part, to degrade oxidative stress through the Nrf2/HO-1

pathway. These findings may offer credible evidences for the use of new complementary and alternative therapies to treat LOH.

Keywords: Modified Ojayeonjonghwan; late-onset hypogonadism (LOH); Nrf2/HO-1 pathway

doi: 10.21037/tau.2017.s095

Cite this abstract as: Bae WJ, Zhu GQ, Choi SW, Jeong HC, Bashraheel F, Kim SJ, Kim SW. Antioxidant and antifibrotic effect of a herbal formulation *in vitro* and in the experimental andropause via Nrf2/HO-1 signalling pathway. *Transl Androl Urol* 2017;6(Suppl 3):AB095. doi: 10.21037/tau.2017.s095

AB096. Paraoxonase 1 (PON1) Q192R gene polymorphism and cancer risk: a meta-analysis based on 30 publications

Meng Zhang, Song Wu

The Third Affiliated Hospital of Shenzhen University, Shenzhen 518001, China

Background: To elucidate the association of genetic variation Q192R in the *PON1* gene and tumor development.

Methods: We performed a meta-analysis for 8,112 cases and 10,037 controls from 32 published case-control studies, and odds ratios (ORs) with 95% confidence intervals (CIs) were used to assess the strength of the association by STATA 12.0 software.

Results: The results showed that PON1-192R allele was associated with a decreased risk in breast cancer, and prostate cancer in homozygote and recessive models.

Conclusions: PON1 Q192R polymorphism was associated with a reduced risk of the overall cancers, nevertheless, it might increase cancer susceptibility of prostate and lymphoma risk.

Keywords: Paraoxonase 1 (*PON1*)

doi: 10.21037/tau.2017.s096

Cite this abstract as: Zhang M, Wu S. Paraoxonase 1 (*PON1*) *Q192R* gene polymorphism and cancer risk: a meta-analysis based on 30 publications. *Transl Androl Urol* 2017;6(Suppl 3): AB096. doi: 10.21037/tau.2017.s096

AB097. Conduction block of mammalian myelinated nerve by local cooling to 15–30 °C after a brief heating

Zhaocun Zhang, Benkang Shi

Qilu Hospital of Shandong University, Jinan 250012, China

Background: This study aimed at understanding thermal effects on nerve conduction and developing new methods to produce a reversible thermal block of axonal conduction in mammalian myelinated nerves.

Methods: In 13 cats, conduction block of pudendal nerves by cooling (5–30 °C) or heating (42–54 °C) a small segment of the nerve was monitored by the urethral striated muscle contractions and increases in intraurethral pressure induced by intermittent electrical stimulation of the nerve.

Results: Cold block was observed at 5–15 °C while heat block occurred at 50–54 °C. Cold block was fully reversible, but only brief complete heat block was reversible. A brief reversible complete heat block at 50–54 °C significantly increased the cold block temperature to 15–30 °C.

Conclusions: This study discovered a novel method to block mammalian myelinated nerves at 15–30 °C, providing the possibility to develop an implantable device to block axonal conduction and treat many chronic diseases.

Keywords: Nerve block; cold; heat; reversible

doi: 10.21037/tau.2017.s097

Cite this abstract as: Zhang Z, Shi B. Conduction block of mammalian myelinated nerve by local cooling to 15–30 °C after a brief heating. *Transl Androl Urol* 2017;6(Suppl 3):AB097. doi: 10.21037/tau.2017.s097

AB098. Defocused low-energy shock wave can stimulate penile tissues to produce more energy for growth and proliferation in a DMED rat model

Woong Jin Bae, Guan Qun Zhu, Sae Woong Choi, Hyun Cheol Jeong, Fahad Bashraheel, Su Jin Kim, Seung Hwan Jeon, Sae Woong Kim

Seoul St. Mary's Hospital, Seoul, South Korea

Background: Defocused low-energy shock wave therapy (DL-ESWT) is a novel and potential way in regeneration medicine, and now it has been used in many areas which have demonstrated its unique superiority. At present, some researchers have applied ESWT to clinical therapy for erectile dysfunction (ED), which achieves satisfactory therapeutic effects. However, the metabolic change of corpus cavernosum with ESWT is still unclear. To investigate the metabolic change of corpus cavernosum with ESWT in a rat model of DMED induced by streptozotocin (STZ).

Methods: We divided human umbilical vein endothelial cells (HUVECs) in three groups. Group 1 is control group, without ESWT. Group 2 is half treated group, with ESWT for former three passages. Group 3 is full treated group, and we applied ESWT to HUVECs for every passage. After five passages, we collected the cells, supernatants and proteins for ELISA and Western blot. The DMED rats were randomly divided into 2 groups (N=10 per group): 1 DMED group, 2 DMED + ESWT group. The normal group (N=10, without STZ) is the control group. Erectile function and other expression experiments were carried out after STZ injection of 8 weeks. ESWT was repeated 3 times per week with one day's break, for a total duration of 4 weeks. Immediately after recording of intracavernous pressure (ICP), the penis was then harvested for histologic analysis, ELISA and western blotting.

Results: The ratio of ICP/MAP was significantly higher in the ESWT group than in the DMED groups (P<0.05). Expression of growth factors increases after ESWT *in vitro*