

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

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**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- $\beta$ ) 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

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

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**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*)

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