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Evaluation of Ginseng on improving sperm quality

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Ginseng has been proved to be a precious herbal medicine due to its multiple bioactive compounds such as ginsenosides, polyphenols and flavonoids to promote health. With a lack of effective medicinal treatment for poor sperm quality, this study aims to investigate the effectiveness of ginseng supplement on improving sperm quality. Rats were orally gavaged with ginseng powder (100 mg/kg/day) provided by Gincare International Enterprises Co., Ltd., for 49 days before sacrifice. The serum total testosterone was measured and the sperm collected from epididymis was quantified and its activity is determined. The sperm was also subjected to YE stain for morphological observation. DNA content of testicular cells was differentiated into haploid (H), diploid (D), tetraploid (T) and S-phase. In addition, haploid cells were further divided into round spermatids (RS) and elongating spermatids (ES). The results indicated that the experimental groups demonstrated a significantly higher ratio of sperms with normal type morphology than the control groups ($62.4 \pm 3.5\%$ to $54.7 \pm 2.8\%$). Amongst the different types of morphological abnormalities, the ratio of sperms with abnormal tail ($28.0 \pm 3.8\%$ to $34.2 \pm 3.6\%$) and multiple abnormalities ($1.8 \pm 0.5\%$ to $3.2 \pm 1.3\%$) was especially reduced. The DNA content in testicular cells on the other hand, showed higher percentage of diploid type, which indicated spermatogonium, primary spermatocytes and meiotic prophase of spermatocytes as the preferable cell types after ginseng supplement. In conclusion, our study suggests a potential advance in ginseng supplement to produce more normal sperms for reproduction purpose.

Biography

Nai-Wen Mei has completed his PhD from National Tsinghua University. He is the Director of Bioscience Division of Gincare International Enterprises Co., Ltd., and has been working in this company for about 9 years to investigate the bioactivities of ginseng in cooperation with various institutes and universities.

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