0227. Preliminary Studies On The Sperm Movement Characteristics Of Habbatus Sauda And Nicotine Treated Rats

Noorafiza Rozali1, Noor Hashida Hashim2,
1Institute of Graduate Studies, University of Malaya, Kuala Lumpur, Malaysia
2Division of Biology, Center of Foundation Studies in Science, University of Malaya, Kuala Lumpur, Malaysia
3Department of Anatomy, University of Malaya, Kuala Lumpur, Malaysia

Habbatus sauda (Nigella sativa) from the Ranunculaceae family is known to have numerous medicinal benefits for the last 2000 years. Habbatus sauda (HS) is believed to improve reproductive efficiency, seminal vesical weight, prostate gland weight, testosterone level and sperm quality. Smoking has been associated with negative effects on different parts of the body. Main compound in cigarette, nicotine (N) leads to various negative effects including towards reproductive system. Sperm motility has been identified as a characteristic that can be useful in the predicting of fertilizing capacity. Sperm Class Analyzer (SCA) is a computer automated semen analysis system designed to provide objective quantitative analysis of the human and animal sperm quality according to WHO criteria. This study was conducted to investigate the sperm movement characteristics of Habbatus sauda and nicotine treated male rats. For this purpose, thirty-five Sprague Dawley male rats were randomly divided into five groups; HS (6µL/100g Habbatus sauda), CO (0.1mL/100g corn oil), N (0.5mg/100g nicotine), nicotine control NC (0.1mL/100g 0.9% NaCl) and N-HS (0.5mg/100g nicotine and 6µL/100g Habbatus sauda) and treated for 100 days. On day 101, the rats were sacrificed and the cauda epididymis was abstracted into 10 mL Toyoda-Yokohama Hosi (TYH) solution. Fresh sperm, 25µL was loaded into a Leja counting chamber and sperm movement characteristics were analyzed using SCA. The treatments gave no significant (p≥0.05) effect on the motile and immotile sperm, speed (rapid, medium and slow), average values of speed (curve speed, VCL; linear speed, VSL; average value, VAP; linearity index, LIN; straightness index, STR and oscillation index, WOB), amplitude lateral head (ALH), beat frequency (BCF) and hyperactive of these five groups. Further study need to be carried out to observe the exact mechanism that control sperm movement due to habbatus sauda and nicotine intake.

Keywords: sperm movement characteristics, semen class analyzer (SCA), habbatus sauda, nicotine, rat