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Poster Presentations

P-14

Protective effect of the co-administration of testosterone and sodium hydrosulfide on testicular H₂S levels and serum testosterone in experimental model of varicocele

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Background: Androgen secretion is reduced in varicocele. Hydrogen sulfide (H₂S), is known as an antioxidant and antiapoptotic molecule.

Objective: This study aimed to assess the effects of co-administration of testosterone and NaHS on sperm count, H₂S levels in testicular tissues and serum testosterone in varicocele-induced male rats.

Materials and Methods: Adult male rats were randomly assigned to 5 groups: sham, varicocele, varicocele+testosterone, varicocele+NaHS, varicocele+testosterone+NaHS. In the varicocele groups, the left renal vein was partially ligated. In treatment groups, five wk after the induction of varicocele, testosterone (200 µg/kg, subeffective dose)

was given subcutaneously for four wk and NaHS (15 µmol/L in drinking water, subeffective dose) were given for four wk. The Left testis tissue samples resected for evaluation H₂S levels. The left epididymis tissue also resected for sperm count. blood samples were taken from the inferior vena cava.

Results: Varicocele caused significant reduction in sperm count, testicular H₂S levels and serum testosterone compared with the sham group. Administration of testosterone+NaHS significantly increased these parameters compared with varicocele group. But there were no significant changes in these parameters in varicocele+NaHS and varicocele+testosterone group compared with the varicocele group. However, there was a significant enhancement in serum testosterone levels in varicocele+testosterone group compared with the varicocele group but this enhancement was lesser than varicocele+testosterone+NaHS group that may due to synergistic effect of NaHS and testosterone.

Conclusion: This study suggested that long term testosterone and NaHS co-administration could improve testicular H₂S levels and serum testosterone in varicocele male rats. Therefore, testosterone+NaHS appears to be a useful treatment against varicocele.

Key words: Varicocele, Testosterone, Hydrogen sulfide, Testicular H₂S levels, Serum testosterone.