

#1964 - Protective effects of long term NaHS administration on epididymal sperm and testis parameters in varicocele male rats

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Body Background: Varicocele is one of the most common causes of male infertility. It is characterized by abnormal dilation and tortuosity of veins of the pampiniform plexus. Hydrogen sulfide (H₂S), a novel gaseous signaling molecule, is shown to have protective effects in different organs. The aim of the current study was to evaluate the protective effects of NaHS (as a donor of H₂S) on epididymal sperm and testis parameters in varicocele male rats.

Methods and materials: Eighteen rats were randomly assigned to 3 experimental groups: 1) sham 2) varicocele 3) varicocele + NaHS. Sham group underwent sham operation and experimental groups underwent partial ligation of the renal veins to induce experimental varicocele. Animals in varicocele + NaHS group received 30 μmol/l NaHS in drinking water for 8 weeks. After 8 weeks in all rats caudal epididymis was used for collecting sperms in order to assess sperm parameters (motility, viability and morphology). The testis was excised and dissected free of surrounding tissues, its weight determined and volume was measured by water displacement method.

Results: Significant decreases in the motility, viability and testis volume and weight and significant changes in sperm morphology were found in varicocele group compared to the sham group. NaHS treatment for 8 weeks significantly increased sperm motility and viability and testis weight and volume and preserved normal morphology compared to the varicocele group.

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Conclusion: This study showed that long term NaHS administration improved the sperm and testis parameters in varicocele male rats. This treatment may be a promising strategy for protection against varicocele-induced male infertility in clinical practice.

References

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