



molecular hydrogen water and ovarian cysts



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The effect of hydrogen-rich water on letrozole-induced polycystic ovary syndrome in rats

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Abstract

Research question: What is the effect of hydrogen-rich water on rats with polycystic ovary syndrome (PCOS)?

Design: Female rats were divided into four groups, each consisting of eight animals. The control group received a carboxymethyl cellulose (CMC) solution, the molecular hydrogen (H2) group was given hydrogen-rich water and a CMC solution, the PCOS group was administered letrozole dissolved in a CMC solution and the PCOS + H2 group was given hydrogen-rich water and letrozole dissolved in a CMC solution. Blood and tissue samples were then collected, and biochemical and histopathological analyses were conducted on the samples.

Results: The histopathological analysis showed a reduction in the number of cysts in the PCOS + H2 group compared with the PCOS group (P < 0.0001). Additionally, the malondialdehyde, cortisol and testosterone data revealed a significant decrease in the PCOS + H2 group compared with the PCOS group (P = 0.0458, P = 0.0003, P = 0.0041, respectively). The glutathione also showed a statistically significant increase in the PCOS + H2 group compared with the PCOS group (P = 0.0012).

Conclusion: The study findings demonstrate that hydrogen-rich water reduces the number of cysts and oxidative damage in rats with PCOS.

Keywords: glutathione; hydrogen rich water; malondialdehyde; polycystic ovary syndrome; rats.

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