

Comparison of the Effects of Clofibrate and Silafibrate on Sperm Parameters Quality and Sex Hormones in Male Rats.

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Abstract

PURPOSE: Fibrates are drugs widely used for the treatment of hyperlipidemic disorders. Previous studies on a novel analogue of clofibrate, called silafibrate, have shown good lipid lowering effects. This study was designed to assess the role of silafibrate as a peroxisome proliferator-activated receptors (PPARs) agonist on sperm health and spermatogenesis in adult male rats.

MATERIAL AND METHODS: Seventy male Wistar rats were randomly allocated into 7 groups: Cl-10, Cl-20, and Cl-40 mg/kg/day (clofibrate); Si-10, Si-20, and Si-40 mg/kg/day (silafibrate); and C, control. After a 28-day treatment, all rats were euthanized. Blood samples were taken for determination of testosterone, total antioxidant capacity, levels of malondialdehyde, and oxidized low-density lipoprotein. Reproductive organs were dissected and spermatozoa collected from the epididymis for analysis.

RESULT: Sperm parameters (count, motility, viability, and morphology) and total serum testosterone decreased significantly in clofibrate-treated (20 and 40 mg/kg) rats ($P < 0.05$) as compared with normal rats.

CONCLUSION: We conclude that PPARs agonists have significant adverse effect on sperm viability, motility, and total serum testosterone, and could be harmful for sperm parameters and male reproductive function in rats.

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