Effects of the probiotic Saccharomyces cerevisiae on some reproductive hormone profile and steroidogenic genes expression in the testes of male rats

Agbonu Oluwa Adikpe

Department of Veterinary Physiology and Biochemistry, University of Abuja, Nigeria

Commentary

Abstract

A Probiotics are live microorganisms that when administered in adequate amounts, confer health benefits on the host. Saccharomyces cerevisiae (SC) is one of the probiotics commonly in use as both human and animal food supplement. There is paucity of information of its effects on male reproductive parameters. In the present study, the effects of SC on testosteron e, luteinizing hormone (LH), follicle stimulating hormone (FSH) profile and messenger ribonucleic acid (mRNA) expression of some steroidogenic genes were investigated. The genes of interest (GOI) included scavenger receptor class B type 1 (SRB1), steroidogenic acute regulatory protein (StAR) and cytochrome P450 cholesterol side-chain cleavage enzyme (P450scc). Adult male Sprague Dawley rats 12-14 weeks of age were orally administered with graded doses of SC for 60 consecutive days. Hormonal profile was determined using ELISA while mRNA expression of steroidogenic genes was determined by RT-qPCR. The result showed significant reduction ($p < 0.05$) in testosterone and LH levels with increasing dose of SC supplementation while FSH was not significantly altered. The mRNA expression of steroidogenic GOI were significantly down-regulated with increasing levels of SC supplementation. In conclusion, SC supplementation altered reproductive parameters of male rats via down-regulation of steroidogenic genes and reduction of testosterone and LH levels

Biography

Dr Agbonu Oluwa Adikpe has completed his PhD at the age ofn37 years from University of Nigeria, Nsukka. He is a lecturer/ researcher in the Department of Veterinary Physiology and Biochemistry with area of specialization in reproductive and nutritional physiology. He has co-authored a textbook of Veterinary Physiology and published more than 20 papers in peer review journals. He is also a reviewer to some reputable journals.

Note:- This work is partly presented at webinar on Women Health and Child Care (June 26, 2021).