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Implication of HongrES1 protein in Quassin-induced male reproductive abnormality in rats

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Quassin, the bioactive constituent of *Quassia amara* plant, has been reported to decrease sperm count, sperm motility, normal sperm morphology and male fertility index. Sperm characteristics are acquired in the epididymis. Information on the effects of quassin on these epididymal functions is scanty. Quassin (0.1 and 2 mg kg⁻¹) and distilled water (0.5 ml) were administered by gavage (p.o) daily for 6 weeks to male rats (180-200 g, n=5), and thereafter sacrificed. Sperm motility, viability and count were examined microscopically. Serum from each rat was analysed for Follicle Stimulating Hormone (FSH), Luteinizing Hormone (LH) and testosterone by enzyme immunoassay technique. Alanine Aminotransferase (ALT), Aspartate Aminotransferase (AST) and Alkaline Phosphatase (ALP) were measured spectrophotometrically. Epididymal HongrES1 protein expression was assessed using immunohistochemical technique. Data were analysed using Student's t-test and ANOVA at p=0.05. Quassin significantly decreased sperm motility, %viability and count. Serum FSH, LH and testosterone were also decreased. The epididymal tubules were coiled and hyperplastic, while no visible lesion was observed on the testes. Serum non-reproductive parameters were not affected by quassin. Total epididymal tissue protein was significantly reduced while total testicular tissue protein increased. Epididymal HongrES1 protein expression was suppressed by treatment with quassin. These effects indicate that antifertility action of quassin is pronounced in the epididymis.

Biography

Obembe Olawale is a lecturer at the Department of Physiology, Osun State University, Nigeria, where he is an EFT/TETFUND scholar. He has submitted a draft of his Doctoral theses to the Department of Physiology, University of Ibadan, Nigeria, where he is currently on Doctoral training. He currently has more than five publications in reputable journals and attended conferences within and outside Africa.

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