Riboflavin-deficient and *Trichinella spiralis*-Induced Stresses on Plasma Corticosterone Associated with Spermatogenesis in Male Wistar Rats

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ABSTRACT

The objective of this study was to investigate the effects of riboflavin-deficient and *Trichinella spiralis*-induced stresses on corticosterone associated with spermatogenesis in male Wistar rats. Rats were allocated into 4 groups: Group 1: control; group 2: riboflavin-deficient diet; group 3: *T. spiralis* infection; group 4: riboflavin deficiency diet with *T. spiralis* infection. This experiment lasted for 12 weeks. Plasma corticosterone was significantly enhanced when exposed to acute riboflavin deficiency and/or *T. spiralis* infection stress. When the rats were chronically subjected to such stresses, *T. spiralis per se* had prolonged effects, in a marked increase in corticosterone. *T. spiralis per se* tended to impact on such sperm characteristics as sperm motility, sperm count and daily sperm production, even defected seminiferous tubules. It was proposed that the *Trichinella spiralis*-induced stress probably had adverse effects on the level of adrenocortical-testicular axis whenever their habitats on muscle fibers were evident. However, riboflavin-deficient-induced stress had little implication in the adrenocortical-testicular axis.