Journal of Andrology, Vol 4, Issue 1 67-70, Copyright © 1983 by The American Society of Andrology

JOURNAL ARTICLE

Pituitary and testicular function in spontaneously hypertensive rats

A. Amador, R. W. Steger, A. Bartke, A. Johns, R. H. Hayashi and M. H. Stallings

Levels of plasma gonadotropins, prolactin (PRL), and testosterone, and the testicular concentration, total content, and affinity of hCG binding sites were measured in male spontaneously hypertensive rats (SHR) and in genetically matched normotensive (WKY) rats. Hypertensive rats had higher plasma PRL and FSH levels and lower plasma testosterone levels. The affinity of testicular hCG binding sites was similar in SHR and WKY rats, but SHR had considerably lower concentration and total content of hCG-binding sites than did WKY animals. The comparison of these findings with those obtained previously with pituitary-grafted rats and with tumor-bearing rats indicates that the endocrine effects of hyperprolactinemia may vary depending on the rate and magnitude of the increase in peripheral PRL levels. Species differences in the response to hyperprolactinemia and differences between SHR and other rat strains suggest that hormonal responses to PRL elevation depend also on the genetic characteristics of the animal.