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## JOURNAL ARTICLE

# Testicular dysfunction in the adjuvant-induced arthritic rat

J. W. Clemens and B. C. Bruot

Department of Biological Sciences, Kent State University, Ohio 44242.

Adjuvant-induced arthritis, an autoimmune disease similar to rheumatoid arthritis, was used to investigate possible mechanisms of immune system modulation of the reproductive system. This laboratory previously reported that arthritic male rats have reduced serum testosterone and elevated serum LH concentrations. In the experiments described here, serum prolactin levels were not significantly different in arthritic animals compared with non-injected control animals. Neither reduced food consumption of arthritic rats nor the injection vehicle appear to cause a reduction of serum testosterone. Serum corticosterone was significantly elevated in the arthritic group compared with both the non-injected or the vehicle-injected control animals. Testicular cells from arthritic animals secrete significantly less testosterone in vitro compared with cells from non-injected control animals, both basally and in response to dbcAMP and hCG. In summary, the reduced serum testosterone of arthritic animals appears to be the result of a testicular dysfunction.

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