

Journal of Andrology, Vol 3, Issue 2 113-116, Copyright © 1982 by [The American Society of Andrology](#)

Testis Vein Testosterone Falls in the Aging Rat: Refutation of "Dilution" Hypothesis

ARTHUR I. FRANKEL¹ AND EDWARD J. MOCK¹

¹ *Department of Biological Sciences, State University of New York at Binghamton, Binghamton, New York*

A proposal that serum testosterone concentration declines during aging in the male laboratory rat because it is diluted in a larger body mass (and larger blood plasma volume) was reexamined. Five age groups were studied: 4, 7, 13, 19, and 24 months of age. Testosterone was measured in both testicular vein and peripheral serum collected from ether-anesthetized rats within 2.5 minutes of removal from the cage. Both testosterone concentrations fell significantly ($P < 0.001$) at 7 months of age and did not change further in older rats, although body weight continued to increase until 19 months of age. The ratio of testicular vein to peripheral serum testosterone did not change significantly within the age span, although both concentrations (and their ratio) were at their lowest values at 24 months of age. Serum LH did not change significantly at any age. It was concluded that the decline in peripheral serum testosterone in the aging male rat reflects a significant change in testicular function, which first can be observed by 7 months of age. The effect of dilution on testosterone and possibly on LH is a minor factor during aging.

Key words: dilution hypothesis in aging, testicular function, ratio of testicular vein to peripheral serum testosterone, aged male rats, testosterone

Submitted on April 14, 1981

Revised on June 15, 1981

Accepted on June 17, 1981

This Article

- ▶ [Full Text \(PDF\)](#)
- ▶ [Alert me when this article is cited](#)
- ▶ [Alert me if a correction is posted](#)

Services

- ▶ [Similar articles in this journal](#)
- ▶ [Alert me to new issues of the journal](#)
- ▶ [Download to citation manager](#)

Citing Articles

- ▶ [Citing Articles via Google Scholar](#)

Google Scholar

- ▶ [Articles by FRANKEL, A. I.](#)
- ▶ [Articles by MOCK, E. J.](#)
- ▶ [Search for Related Content](#)

PubMed

- ▶ [Articles by FRANKEL, A. I.](#)
- ▶ [Articles by MOCK, E. J.](#)