Journal of Andrology, Vol 12, Issue 5 335-343, Copyright © 1991 by The American Society of Andrology

JOURNAL ARTICLE

Experimental cryptorchidism in the adult mouse. III. Qualitative and quantitative electron microscopic morphology of Leydig cells

S. M. Mendis-Handagama, J. B. Kerr and D. M. De Kretser
Department of Population Dynamics, Johns Hopkins School of Hygiene and Public Health, Baltimore, Maryland 21205.

The morphology of Leydig cells of control and 28-day-old cryptorchid mice was studied by electron microscopy and stereologic techniques. Leydig cell profiles of control mice were larger in section when compared to cryptorchid mice, but no differences were observed in the distribution of organelles in Leydig cells in the two groups. Quantitatively, the absolute volumes of smooth endoplasmic reticulum (SER), rough endoplasmic reticulum (RER), mitochondria, lysosomes, multivesicular bodies, peroxisomes, cytoplasmic matrix, nucleus, lipid droplets, membrane whorls, ribosomal aggregates, and annulate lamellae per Leydig cell were reduced significantly after 28 days of cryptorchidism. However, the absolute volumes of these organelles per testis were not significantly different between control and cryptorchid mice, due to the increase in Leydig cell number per testis in the cryptorchid testis, compared to the controls, except that the absolute volume of Golgi per Leydig cell was not significantly different between control and cryptorchid rats, but the absolute volume of Leydig cell Golgi was significantly lower in control rats. Based on these results, we conclude that, morphologically, a 28-day cryptorchid mouse Leydig cell clearly approximates a "half unit" of a control Leydig cell.

This article has been cited by other articles: