

Ravicha Ploypattarapinyo 2011: Temporal Antispermatogenic and Lowered Total Testosterone Effect of *Momordica charantia* Seed Extracts in Wistar Rats. Master of Science (Zoology), Major Field: Zoology, Department of Zoology. Thesis Advisor: Associate Professor Panus Tumkiratiwong, Ph.D. 129 pages.

The objectives of this study were to investigate the reversible antifertility effect of *M. charantia* ethanolic seed extract. The controlled group was provided 1 ml DMSO/d and the experimental group II and III were given 400 and 800 mg/kgbw/d of *M. charantia* seed extract dissolved in 1 ml DMSO via esophageal route. They were orally administered for 42 consecutive days and withdrawn the extract for 14 days. Antifertility effect of *M. charantia* seed extracts was observed at day 42 and 56. At day 42, *M. charantia* seed extract demonstrated a significant reduction in the diameters of the seminiferous tubules and epididymis, spermatid density, fertility, daily sperm production, numbers of spermatozoa in caudal epididymis, sperm motility, viable spermatozoa, normal morphology of spermatozoa, integrity of acrosome and membrane and testicular and blood plasma total testosterone. Pathology changes of the testis in some of the seminiferous tubules revealed tubular atrophy, desquamation, pyknosis nucleus and multinucleated giant cells. Plasma cells, multinucleated giant cells and loss of spermatozoa were evident in the epididymis. After treatment withdrawal for 14 days, all altered parameters, in group II and III, restored to normal. It suggests that the reduced fertility was attributed to the reduced testicular and blood plasma total testosterone, which disturbed functional of testis and epididymis causing reduced sperm parameters.

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