

**4th CONGRESS OF PHYSIOLOGICAL SCIENCES OF SERBIA
WITH INTERNATIONAL PARTICIPATION**

Organized by the Serbian Physiological Society



Under the auspices of

Federation of European Physiological Societies (FEPS)

International Union of Physiological Sciences (IUPS)

International Society for Pathophysiology (ISP)

International Academy of Cardiovascular Sciences (IACS)

**CURRENT TRENDS IN PHYSIOLOGICAL SCIENCES:
FROM CELL SIGNALS TO THE BIOLOGY OF AGING**



ABSTRACT BOOK

September 19-23, 2018
Faculty of Medicine, University of Nis,
Nis, Republic of Serbia

MUSEP 14

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September 19-23, 2018
Faculty of Medicine, University of Nis,
Nis, Republic of Serbia

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TESTOSTERONE EFFECTS ON THE PITUITARY GONADOTROPIC CELLS IN AN ANIMAL MODEL OF THE ANDROPAUSE

Ajdzanovic V¹, Jakovljevic V², Miler M¹, Ristic N¹, Potrebic M¹, Sretenovic J², Popovska Percinic F³, Pendovski L², Milosevic V¹

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The aim of this study was to investigate the immunohistomorphometric parameters of follicle-stimulating hormone (FSH) and luteinizing hormone (LH) cells after testosterone application in an animal model of the andropause. Middle-aged Wistar rats were divided into orchidectomized (Orx) and testosterone treated orchidectomized (Orx+T) groups. Testosterone propionate (5 mg/kg b.m. /day) was administered for three weeks, while Orx group received the vehicle alone. Immunohistochemically stained FSH and LH cells were subjected to the morphometric and optical density-related analysis, while circulating concentration of testosterone was measured by the immunoassay. Serum concentration of testosterone was increased ($p < 0.05$) by 24 fold in comparison with Orx group. Testosterone treatment did not cause significant changes of body mass or absolute and relative pituitary weights compared to Orx group. The volume of FSH and LH cells was decreased ($p < 0.05$) by 51.3% and 56.6% respectively, in comparison with Orx rats. Relative volume density of FSH and LH cells was also decreased ($p < 0.05$) by 54.0% and 72.8% respectively, compared to Orx group. Results related to the optical density of gonadotropic cells were in line with the morphometric findings i.e. this parameter of FSH and LH cells was decreased ($p < 0.05$) by 25.7% and 16.2% respectively, in comparison with Orx rats. In conclusion, applied testosterone decreased morphometric parameters and optical density of gonadotropic cells in Orx rats.

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