Materials of Conference

STUDYING OF THE FEEDING RATION INFLUENCE ON THE ACTIVITIES OF MALE-RATS' SPERMATOGENESIS

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Fall of reproductive health of population in Europe and Russia, in particular, makes investigations in studying causes and mechanisms of abnormal reproduction actual.

Incontestable is the fact that improper feeding, i.e. in case the main chemical elements (proteins, fat, mineral salt, vitamins) are unbalanced, there can be different disturbances of the function of the organism on the cellular-level. Actively fission cells, undoubtedly generative ones can be referred to them, are especially sensitive to negative influence.

That is why the goal of our experiment was to investigate the indexes of male-rats' spermatogenesis depending on their feeding ration.

Experiments were held on 40 white sexually matured out-bred male-rats weighing 180 - 200 g. Keeping the animals and holding experiments was based on the International convention of work with laboratory animals (Strasburg, 1986). Male-rats were divided into 2 groups (20 individuals in each). The first group got balanced feeding (mixed fodder + fresh vegetables, cottage cheese, seed oil). The second group got only refined grain. Both groups of animals were not limited in water. The experiment has been keeping on one cycle of spermatogenesis (60 days). At the end of the experiment testicles and epididymis were educed to make a morphological investigation after death lethal injection of the animals (narcosis - ethereal). Homogenate was extracted from epididymises, spermiogramma was investigated. Testicles were subjected to histological process. Statistical processing was led in the program Statistica 6.0 (Statsoft, USA).

It was ascertained that in the second group of male-rats the general number of spermatozoa decreased by 14% while at the same time their pathological forms increased by 40% ($p<0,05$) as compared with the animals of the first group. Other structural and functional indexes of spermiogramma in both groups of animals were practically identical and didn't overstep the limits of physiological standards.

Evaluation of the macroscopic structure of genital glands didn't discover important changes of their morphology, at the same time mass's coefficient of epididymises increased in the first group of the male-rats by 75% ($p<0,05$) as to compare with the male-rats that were on a limited ration (group 2). Microscopical investigation of testicles' sections showed falling of indexes of spermatogenesis in the second group of the male-rats by 57% ($p<0,05$) and growth of number of tubules with cast-off epithelium by 43% ($p<0,05$) as to compare with the animals that were fed on a full balanced diet (group 1).

Thus, the results of the investigation testify to the disturbance of process of spermatogenesis of the animals that are on a monocomponent ration.

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