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EFFECT OF EXPERIMENTAL NICOTINE INTOXICATION ON
MORPHOLOGICAL PARAMETERS OF THE UTERUS AND FALLOPIAN TUBES OF
RATS

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Objective. To investigate morphological and morphometric alterations of the uterus and fallopian tubes in 9-month-old white outbred female rats under experimental nicotine intoxication.

Materials and Methods. The experiment was performed on 60 female albino rats. The animals were divided into control (n=30) and experimental (n=30) groups. The experimental group was exposed to tobacco smoke for 30 days, 30 minutes at a time, twice daily, according to the model proposed by A.S. Solomina (2011). The specimens were stained with hematoxylin and eosin. Morphometric analysis included measurements of endometrial and myometrial thickness, uterine gland density, and fallopian tube wall thickness.

Results. Control animals demonstrated normal histological organization of the uterus and fallopian tubes. Nicotine exposure resulted in a 30.6% reduction in endometrial thickness and a 24.6% decrease in myometrial thickness. Uterine gland density declined by 39.1%, indicating marked glandular atrophy.

In the fallopian tubes, wall thickness decreased from $146 \pm 8 \mu\text{m}$ to $108 \pm 6 \mu\text{m}$, reflecting atrophic remodeling of the mucosal and muscular layers.

Conclusions. Experimental nicotine intoxication induces pronounced atrophic and dystrophic changes in the uterus and fallopian tubes of rats, confirming the toxic effect of nicotine on female reproductive organs.

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