

Histological Effects of Smokeless Tobacco on the Endometrial Glands of the Orally Treated Female Swiss Albino Rats

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ABSTRACT- Introduction: Tobacco use is the leading cause of mortality all over the world. Smokeless tobacco contains higher quantities of nicotine than most cigarettes. Over the past few decades the use of tobacco among women of reproductive ages has increased. Exposure to the toxins present in the tobacco interferes with the endometrial receptivity, endometrial angiogenesis and uterine blood flow.

Material and Methods: 30 adult female Swiss albino rats were randomly selected. They were divided into three groups (n=10 each). Group A was kept as control. Experimental groups B&C consisted of rats which were given 5 % & 10% of smokeless tobacco in their feed respectively. Feed and water were given ad libitum. On 31st day the animals were sacrificed. Uterus of all the animals were removed and weighed. The tissues were processed for histological examination under light microscopy using H & E and Trichrome stains.

Results: A significant decrease in the weight of the uterus was observed (P value ≤ 0.001). The histological changes in the uterus of experimental groups revealed severe cystically dilated sub mucosal glands. Endometrial glands also showed marked atrophy (P value ≤ 0.001).

Conclusion: From this study it can be concluded that the smokeless form of tobacco causes adverse effects on the endometrium of the female Swiss albino rats. Long term use of this form of tobacco may lead to adverse reproductive outcomes or other pathological conditions of uterus.

Key Words: Swiss albino rats, smokeless tobacco, uterus.