

Thesis Title The Effect of Continuous High Dose
Injections with Estrogen, Progesterone
and Depo-provera on the Reproductive
System of Female Albino Rats.

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Date of Awarding the Degree November 27, 1986.

Abstract

Forty - two female albino rats, 60 days of age, 130-150 grams body weight, Wistar strain, were used. The estrous cycles were daily studied from the vaginal smear until the rat had at least two regular cycles. They were divided into 7 groups. Group I, as the normal control, rats were uninjected throughout the experiment. Group II, rats were intramuscular injected with 1 mg. of Estradiol benzoate at estrous stage every second day for 30 days. Group III, rats were intramuscular injected with 2 mg. of Estradiol benzoate at estrous stage every second day for 30 days. Group IV, rats were intramuscular injected with 1 mg. of Progesterone at estrous stage every second day for 30 days. Group V, rats were intramuscular injected with 2 mg. of Progesterone at estrous stage every second day for 30 days. Group VI rats were intramuscular injected with 1 mg. of Depo-provera (Medroxy-progesterone acetate) at estrous stage every second day for 30 days. Group VII, rats were

intramuscular injected with 2 mg. of Depo-provera (Medroxy-progesterone acetate) at estrous stage every second day for 30 days. All of them were taken vaginal smears every day throughout the experiment for studying the changes of the estrous cycles, and were weighed every third day throughout the experiment too. All rats were sacrificed at about 102 - 104 days of age. The results received that : 1) The Estrogen injected rats grew slower than the normal control and the body weight at the day of autopsy was lower than the body weight at the day of first injection. The Progesterone injected rats and Depo-provera injected rats grew faster than the normal control. 2) The vaginal smear of the Estrogen - injected rats showed estrous stage throughout the experiment. The vaginal smear of Progesterone injected rats and Depo-provera injected rats showed diestrous stage throughout the experiment. 3) Estrogen, Progesterone, Depo-provera suppress the ovarian weight and ovarian function histologically just by the increasing of a number of atrophic follicles and degenerative changes of follicular cells and ovum. 4) Estrogen, Progesterone, Depo-provera have stimulating effect on muscular wall of oviduct. 5) Estrogen, Progesterone, Depo-provera have stimulating effect on the uterus by increasing the uterine weight, uterine diameter, thickness of myometrium, number and sized of endometrial glands. Estrogen induced a number of small - sized collagen fibers, Progesterone and Depo-provera caused a number of large - sized collagen fibers in lamina propria. All of these hormones induced a hypertrophic muscle fibers in the myometrium. 6) Estrogen have a stimulating effect on the muscular layer of vaginae and caused the superficial vaginal epithelium to be thick cornified and sloughed off the deeper epithelium. Progesterone has no effect on the muscular layer and caused the vaginal epithelium to be more flatten than those of the diestrous control.

Depo-provera caused the muscular layer of vaginae thinner than those of the control and caused the vaginal epithelium to be more flatten than those of the diestrous control.