

The anorectic agent, lorcaserin, disturbs estrous cyclicity and produces endometrial hyperplasia without affecting ovarian population in female rats.

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Abstract

Aims

The present study aims to investigate the effect of the new anorectic agent, lorcaserin, on estrous cyclicity, reproductive hormones and folliculogenesis in female mature rats.

Materials and methods

Rats were divided into four groups; Group i: control group. Group ii-iv: rats treated with lorcaserin (5, 10 or 30 mg/kg/day, p.o.), respectively. The treatment continued for 28 days.

Key findings

Lorcaserin (5 or 10 mg/kg) caused estrous cycle disturbance in 40% of treated rats while the high dose (30 mg/kg) produced disturbances in 100% of the treated rats. Lorcaserin (5-30 mg/kg) altered some of female hormones where it enhanced estradiol but reduced luteinizing hormone. Minimal edema with congested vessels was observed in the medulla of ovarian sections. Further, epithelial and uterine sections showed hyperplasia.

Significance

Taken together, the present results demonstrated that lorcaserin affected some reproductive hormones, disturbed estrous cyclicity and induced histopathological changes in the ovaries and uteri without affecting the ovarian populations. Therefore, lorcaserin should be used with caution in women of child bearing potential until adequate clinical safety data are available.

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