

Effects of ovariectomy and estradiol valerate or progesterone on serum insulin level in animals

Supported by: GREEN, IAS, AIC

Background

Experimental data from in vitro studies suggest that insulin and sex hormones interact. The main purpose of the present study was to examine the effects of progesterone and estradiol on serum insulin in female rats.

Methods

Seven weeks old female albino (Wistar) rats were used in our study. Progesterone (20 mg/kg/day) or estradiol valerate (200 g/kg/day) were injected subcutaneously in ovariectomised and non-ovariectomised rats. Serum levels of insulin was measured with radioimmunoassay method. Data were analyzed using Wilcoxon test.

Results

After 4 weeks, serum insulin level was measured indicating decreased serum insulin level in ovariectomised rats compared with control group. In contrast to progesterone replacement, decreasing of serum insulin in ovariectomised rats was prevented by estradiol replacement. Serum insulin level was also increased in estradiol receiving and decreased in progesterone receiving non-ovariectomised rats.

Conclusion

Our findings indicated that estradiol was serum insulin enhancer hormone and progesterone was serum insulin reducer hormone in rats.