SUMMARY

The obtained results in this investigation represent the influence of prolactin on plasma level of different hormones with metabolic activity including GH, TSH, cortisol, glucagon and insulin in male, female mices and virgin as well the uptake of C^{14}-Galactose, C^{14}-Valine and C^{14}-Arginine in different tissues of mices.

Four logarismic doses of prolactin (10, 59, 144 and 350 µg/kg.B.W.) was performed and sampling (for hormonal assay) were 30 min 24 hrs, and 72 hr. following the i.p. application of prolactin, but sampling (for the C^{14}-Galactose, C^{14}-Valine and C^{14}-Arginine) was 24 hr. following the administeration of the different prolactin doses.

The results were, then, stastistically analysed and illustrated in 27 tables and 9 figures.

The gained results can be summarised in the following items:

Effect on GH

a) In immature male mice:

The lowest dose of prolactin (10 µg) induced a significant increase in the level of GH but only 30 min. after the application, whole after 24 and 72 hr as well the other doses of prolactin (59, 144 + 350 µg) after 30 min, 24 and 72 hr induced, In contrast a significant decrease in the plasma level of GH.

b) In immature female mice:

The 10 µg dose of prolactin decreased the level of GH of 30 min. and 24 hr but increased it significantly after 72 hr the other higher doses of prolactin resulted in a significant decrease of GH in the plasma after 30 min. 24 and 72 hr but with tendency to some increase with the time.

c) In virgin:

The lowest doses (10, 59 µg) of prolactin showed a significant decrease in GH level of plasma after 30 min. in case of 10 µg after 30 min. and also 24 hr in case of 59 µg. Meanwhile, the significant decreasing after 144 µg and 350 µg after 30 min 24 hr 72 hr.

II. Effect on TSH:

a) In immature male:

Meanwhile, the decreasing in TSH hormone level in plasma after 30 min. of from lowest doses of prolactin, then TSH level increased after 24, 72 hr but the highest doses of prolactin also decrease in TSH level after 30 min. and also increased the levels of TSH hormone after 72 hr.

b) In immature female mice:

There are a relation with time between dose and a significant decreasing in the TSH level of plasma.

c) In virgin:

The level of TSH in plasma following different doses of prolactin in virgin showed a bell-shaped character in relation with time i.e. it decreased significantelly after 30 min. as well after 72 hrs. while increased significantly after 24 hrs.

Effect of cortisol

a) In immature male:

The plasma level of cortisol increased driastically following all doses of prolactin (except the lowest dose after 30 min.) This increase was proportional with the dose of prolactin.

b) In immature female

All doses of prolactin induced also a dramatic increase of cortisol in plasma.

c) In virgin:

Except the highest dose of prolactin (350 µg) after 30 min., there was and a significant increase of plasma cortisol level following all doses of prolactin, but not proportional with the dose as descriped in immature male and female.

Effect of Glucagon:

a) In immature male:

The level of glucagon on plasma was variable according to the dose and time after application. It has

been drop significantly after 30 min. from the application of the 10 µg of prolactin while elevated significantly after 24 hr meanwhile, the 59 µg dose induced a significant decrease of glucagon level after the different tested times; but the third dose (144 µg) of prolactin increased glucagon level after 30 min. and decreased it significantly after 72 hr. on the other hand, the 350 µg dose resulted in a significant increase after 30 min. and 24 hr but decreased that after 72 hr.

b) Immature female

While the lowest dose decreased the glucagon level in plasma only after 72 hr the 59 µg as well 144 µg doses of PRL. Showed the droping as soon as 30 min. following the application the highest dose (350 µg) of prolactin resulted in a significant increase after 30 min. and a significant decrease after 72 hr.

c) In virgin

In contrast of the results obtained in immature male and females, the glucagon level in plasma showed a marked and significant decrease following all doses of prolactin.