



Letters to the Editor

Sir,

HISTAMINE CONTENT OF ALBINO RAT UTERUS DURING ESTROUS CYCLE AND EARLY PREGNANCY

Marcus *et al.* (1) has reported that in pregnant rat there is release of estrogen from the ovary prior to the implantation of the blastocyst and this is followed by the liberation of histamine from the pregnant rat uterus. They consider this liberated histamine to be responsible for decidua formation. In their results of cycling rats, histamine content of the uterus is maximum during proestrous and minimum during diestrous. These results create controversy, that is estrogen releases histamine from the pregnant rat uterus and its effect is opposite in cycling rats, *i.e.*, maximum histamine content in the uterus during proestrous, when the estrogen effect is maximum.

Histamine content of the pregnant rat uterus (single uterus) upto day 5 (prior to implantation) and that of cycling female rats was measured by fluorimetric method (2). Each sample was assayed for histamine content twice to ascertain the accuracy of the experiment. Four recovery experiments were done by adding known amount (0.05-0.15 μg) of histamine to the tissue extract. Recovery of histamine was 96.61 to 108.1 percent.

The histamine content of the uterus in cycling rats is dependent on the phase of the estrous cycle (Table I). It is maximum during diestrous and is minimum during estrous. The histamine content of the pregnant rat uterus declines from day 3 and there is a marked fall on day 5 (Table II).

TABLE I
Histamine contents of cycling rat uterus

Phase of cycle	No. of animals used	Mean body weight $\pm SD$	Mg uterus wt/100 G body weight $\pm SD$	Histamine base $\mu\text{g}/\text{uterus}$ $\pm SD$	Histamine base $\mu\text{g}/\text{G uterine tissue}$ $\pm SD$
Diestrous	5	246 \pm 22	136 \pm 15	1.125 \pm 0.14	3.7 \pm 0.21
Proestrous	6	273 \pm 10	205 \pm 35	0.95 \pm 0.084	1.73 \pm 0.25
Estrous	5	249 \pm 8	215 \pm 38	0.824 \pm 0.092	1.6 \pm 0.14
Metestrous	5	275 \pm 13	150 \pm 19	0.997 \pm 0.175	2.37 \pm 0.39

TABLE II
Histamine content of pregnant rat uterus

Day of pregnancy;	No. of animals	Body weight \pm SD	mg uterus wt/100g body weight \pm SD	Histamine base μ g/uterus \pm SD	Histamine base ug/g of uterine tissue \pm SD
Day 1	5	269 \pm 15	160 \pm 32	0.856 \pm .23	1.96 \pm 0.21
Day 2	5	276 \pm 17	131 \pm 30	0.71 \pm .20	2.07 \pm 0.63
Day 3	6	258 \pm 11	139 \pm 32	0.59 \pm .10	1.67 \pm 0.20
Day 4	5	279 \pm 22	139 \pm 29	0.646 \pm .079	1.64 \pm 0.33
Day 5	5	282 \pm 19	113 \pm 16	0.364 \pm .081	1.07 \pm 0.10

Further studies are being done to find out, if this released histamine has any specific role to play.

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