DEMONSTRATIONS

Kininogen levels in rat pseudopregnancy

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Recent studies in this laboratory have shown that plasma kininogen levels rise with advancing gestation in the rat and these levels are affected by the circulating level of oestrogens in the female rat (McCormick & Senior, 1971). The present investigation is being performed to determine the effect of pseudopregnancy on the rat kininogen levels.

Mature, virgin female rats of the CSE strain are used and the stage of the oestrous cycle is determined by vaginal smear. When the vaginal smear is fully cornified the female rats are allowed to mate with a vasectomized male rat and the day of sterile mating is taken as day 0 of pseudopregnancy. To prolong pseudopregnancy the uterus is traumatized on day 5, the pseudopregnancy then lasts for a further 23 days. The concentration of plasma kininogen is determined using a modified method of Diniz & Carvalho (1963).

The results indicate that from day 17 of pseudopregnancy onwards there is an increase in plasma kininogen concentration, which follows a similar pattern to that found in the pregnant rat. These results support the suggestion that circulating oestrogen levels are important in the maintenance of plasma kininogen levels in the female rat and that this factor is independent of the presence of the foetus during gestation.

REFERENCES

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The retention of some metallic elements in tissues of rats exposed to welding fumes

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Groups of 8–12 rats were placed in a closed chamber and exposed to fumes from an arc welding process for periods up to 4 h. Fumes were produced by igniting standard rutile iron welding rods (Phillips Type C18) on a workpiece of medium tensile steel housed in a specially constructed cowl. The fumes, comprising decomposition products, e.g. metallic oxides, from the welding rods and workpiece were drawn through a centrally placed perforated tube in the exposure chamber. Samples of the fume material were collected and the flow rate measured. Twenty-four h later, or after periods of 7, 27 or 75 days, the animals were killed and tissue samples subjected to histological examination, or neutron activation analysis to determine the content of metallic elements.

Twenty-four h after exposure, substantial deposition of particulate material was apparent in lung tissue. Macrophages in lower bronchioles and alveolar ducts