spect paid to science and scientists in the Soviet Union. Most of them were surprised by the warmth of their reception and by the fact that for the first time in the case of any visiting bourgeois group, except Ministers of State, there was a reception for the delegates of this congress within the exclusive ramparts of the Kremlin in Moscow.

WALTER DURANTY

SPECIAL ARTICLES

CRYSTALLINE PROGESTIN AND INHIBITION OF UTERINE MOTILITY IN VIVO[1]

SEVERAL years ago we[2] showed that the injection of progestin-containing extracts of the corpus luteum into post-partum rabbits caused complete suppression of the rhythmical uterine contractions usually found at that time, and also that the injection of oestrin into castrated rabbits while under the influence of corpus luteum extracts failed to induce oestrous motility. We were unable at that time to say whether the inhibitory effect of the extracts was due to the progestin or to some other hormone, since no attempt was made to study any fractions other than those known to contain progestin.

During the past year progestin has been isolated in crystalline form and its formula and structure determined.[3] Consequently, we have studied the effect of the pure hormone on uterine motility *in vivo* to determine whether or not it retains the motility-inhibiting factor which we have already shown to be present in the impure progestin-containing extracts.

The experiments were carried out in adult female rabbits whose sexual maturity was proved in most instances by the birth of one litter of young and in the remaining cases by ovulation following a single injection of pregnancy urine. Such animals were castrated and a uterine fistula prepared by transecting the vagina just below the cervix, closing the lower end and bringing the upper end through an opening in the anterior abdominal wall, where it was sutured to the edges of a small opening in the skin.[4] Several days after this operation they were given 100 rat units of Theelin, half intravenously and half intramuscularly to induce oestrous motility. Such injections have to be made because castrated animals such as these exhibit almost no spontaneous motility *per se*. The day after the Theelin was given a small rubber balloon was inserted without anesthesia into one cornu of the uterus and connected through a suitable air-water apparatus to a kymograph in such a way that the spontaneous uterine contractions could be recorded. A continuous record was then made of the oestrous type contractions for about one half hour. Progestin was next injected subcutaneously and the recording continued without interruption for 4 to 5 hours or until complete suppression of uterine motility had taken place (less than 1 hour with the larger doses).

Three different progestin preparations were used: The first was moderately pure (1 rabbit unit = 40 mgs) and the other two were crystalline, one the needle form and the other the prism form. (Progestin occurs in two polymorphous forms.) Both types of crystals gave combustion figures indicating the formula $C_{21}H_{30}O_2$, absorption spectra with a maximum at 240 mμ, and both had the same physiological potency when assayed by the Corner-Allen test for progestin.

We found that the impure extract caused complete suppression of uterine motility within 1 hour after injection when 1.2 rabbit units were given, 2 hours with 0.6 units and 4 hours with 0.3 units. Using the prisms, inhibition was obtained in 3¾ hours from 0.2 rabbit unit (0.26 mg) and in 2½ hours from 0.4 unit. Similar results were obtained when the other type (long needles) were injected.

These results indicate that there is no difference physiologically between the two forms of crystals, either form being capable of suppressing uterine motility, and further, since the pure hormone possesses the same inhibition capacity per rabbit unit as an impure extract, it is evident that both reactions, *i.e.*, inhibition of motility and progestational proliferation of the endometrium, are brought about by action of one and the same hormone.

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A COLLOIDAL DYE EFFECTIVE IN TREATING PERNICIOUS ANEMIA AND EVOKING RETICULOCYTOSIS IN GUINEA PIGS[1]

WE have confirmed the observation of Massa and Zolezzi[2] that the intravenous injection of repeated

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[2] M. Massa and G. Zolezzi, *Klin. Wochnschr.*, 14: 235, 1935.