

histological examination and the remainder ground up for fat estimation. (Total fatty acid, 30%.)

**Microscopic Description:** The liver shows extensive fatty infiltration. This is central in location, although scattered patches are present in different portions of some lobules. Many cells which do not contain much fat are undergoing some rather rapid degeneration of a coagulative hyaline type. Around the periphery of many lobules, cells have become atrophied and have been caught in a meshwork of proliferating fibrous tissue. This has proliferated around lobules forming a characteristic retaining wall. In other lobules it ramifies throughout, breaking the normal lobule up into several smaller lobules. This is better seen in phosphotungstic acid hemotoxylin sections where the picture of cirrhosis of the liver is reproduced. Rather wide bands of fibrous tissue surround the lobules and pass through lobules to connect others and form islands of fatty liver. The picture is that of a well advanced fatty cirrhosis such as can be duplicated by many similar cases called alcoholic cirrhosis in man. (Figs. 1 and 2.)

#### 10204

### **Pseudopregnancies from Electrical Stimulation of the Cervix in the Diestrum.\***

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The artificial induction of a pseudopregnant state in the rat by means of electrical or mechanical stimulation of the cervix uteri is a common laboratory procedure. It has long been supposed that these stimuli to be effective must be applied at or near the time when the female is in a sexually receptive mood (*i. e.*, late proestrus or estrus). We wish to report some observations on the application of an electrical stimulus to the cervix of adult female rats during the diestrous phase of the cycle.

The cervix was exposed with a speculum and the electrodes, spaced at 2 mm, were applied at any place on the body of the cervix. The stimulus, a faradic current taken from an induction coil, was moderately intense and always produced convulsive contractions in the hind quarters. The stimulus was applied continuously over a period of 5 to 10 sec.

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In a group of 26 virgin females known to be having regular 4 to 5 day cycles 13 were stimulated on the 1st day of diestrus, and 13 on the second day. The number of animals becoming immediately pseudopregnant, those showing one additional estrus before becoming pseudopregnant and those showing no disturbance of the estrous cycle are listed in Table I.

TABLE I.

No. rats	Day of diestrus cervix stimulated	Number of animals showing:		
		Immediate pseudopreg.	One additional cycle	Uninterrupted cycles
13	1st	7	4	2
13	2nd	2	7	4

The total number of pseudopregnancies obtained in the above groups in which the stimulus was applied during the interval was 20 or 76%. Thirty-six females in late proestrus or estrus were stimulated in the same manner; 31 or 86% became pseudopregnant immediately and the remaining 5 continued to show cycles of normal length. The above figures are all on the basis of a single stimulation for each animal.

Since it was possible by stimulating the cervix in the diestrus to extend the diestrus interval in some instances into a normal pseudopregnancy it seemed probable that this procedure applied during pseudopregnancy might also continue this condition beyond the normal average length of 12 to 14 days. Accordingly 16 females were stimulated every third day beginning on the eighth day of pseudopregnancy. In spite of this treatment the pseudopregnancies were all terminated between the twelfth and sixteenth days. Since stimulation of the cervix during the diestrus may induce a pseudopregnant state one may infer that the corpora lutea are not effectively blocking the neurohumoral mechanism. The reason that this same procedure applied during a pseudopregnancy does not result in a prolongation of that condition is presumably related to the greater degree of activity of the corpora lutea at this time.†

† Astwood finds (unpublished data) that the injection of an adequate dosage of progesterone prior to cervical stimulation will greatly reduce the expected number of pseudopregnancies.