

BRIEF NOTE

OBSERVATION ON THE ONSET OF POST-WEANING ESTRUS
IN THE CHINESE HAMSTER, *CRICETULUS GRISEUS*

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Premeditated massproduction of the Chinese hamster, *Cricetulus griseus*, is impeded by difficulties encountered with breeding of these animals under usual laboratory conditions. Although the estrous cycle in the Chinese hamster has been studied in detail by Parks²⁾ and recently by Kita *et al.*¹⁾, many reproductive natures of this animal still remain mysteriously. The present study was undertaken to examine the onset of post-weaning estrus in the Chinese hamster.

The Chinese hamsters were derived initially from Dr. T. Yoshida's colony, National Institute of Genetics (Ms), Mishima, Japan, and bred in Laboratory Animal Center of Kawasaki Medical School, Kurashiki, Japan. Twenty-two multiparous females were used in the present study. They were housed in an air-conditioned room at approximately 25°C, and were fed on the compressed pellet diet (Oriental Yeast Co. Ltd., Tokyo; CMF), and provided with tap water *ad libitum*. A light-dark cycle of 14-10 hr was used with the lights turned on at 6:00 a. m. and off at 8:00 p. m. Vaginal smearing from above animals was performed once a day in the morning for 12 days, from the 18th day of lactation to the 8th day after young was removed. The day of parturition was designated as the 0th day of lactation and as the 0 day of young's age. Young was weaned on the afternoon of the 21st day after birth. The smears were stained with Giemsa solution, and the onset of post-weaning estrus was examined.

The results are shown in Table 1. Estrus never returned before weaning of young. In 63.6% females (14 out of 22) post-weaning estrus occurred on the third night after young was removed, and on the second night estrus returned in 31.8% females (7 out of 22). In one instance, No. 2-20 female did not show the return of normal estrous cycle within the term of observation. Almost all animals showed 4-day estrous cycle after weaning of young as shown by Parks²⁾, Yerganian³⁾ and Kita *et al.*¹⁾, but in some cases (5 animals) normal estrous cycles were disturbed by the prolongation of diestrous status, although the first estrus, i. e., post-weaning estrus, normally returned on

TABLE 1. Onset of the post-weaning estrus in the Chinese hamsters

Female No.	Days of lactation				Days after weaning**								Suckling litter size
	18	19	20	21	1	2	3	4	5	6	7	8	
Exp. 10	V*	V	V	V	V	I	IV	V	V	I	IV	V	5
Exp. 12	V	V	V	V	V	I	IV	V	V	I	IV	V	
Exp. 21	V	V	V	V	V	I	IV	V	V	I	IV	V	
Exp. 24	V	V	V	V	V	I	IV	V	V	V	V	V	
2 — 6	V	V	V	V	V	I	IV	V	V	V	V	I	
2 — 15	V	V	V	V	V	I	III	V	V	I	IV	V	
2 — 20	V	V	V	V	V	V	I	V	V	V	V	V	
2 — 21	V	V	V	V	V	I	IV	V	V	I	IV	V	
1 — 23	V	V	V	V	I	IV	V	V	I	III	V	V	
Exp. 3	V	V	V	V	V	I	IV	V	V	I	IV	V	4
2 — 9	V	V	V	V	V	I	IV	V	V	I	IV	V	
2 — 10	V	V	V	V	I	IV	V	V	V	V	V	V	
2 — 11	V	V	V	V	I	IV	V	V	I	IV	V	V	
Exp. 5	V	V	V	V	V	I	IV	V	V	V	V	V	3
Exp. 15	V	V	V	V	I	IV	V	V	V	V	I	IV	
2 — 12	V	V	V	V	V	I	IV	V	V	I	IV	V	
2 — 17	V	V	V	V	I	IV	V	V	I	IV	V	V	
2 — 19	V	V	V	V	V	I	IV	V	V	I	IV	V	
Exp. 9	V	V	V	V	V	I	IV	V	V	I	IV	V	2
2 — 2	V	V	V	V	I	IV	V	V	I	IV	V	V	
2 — 18	V	V	V	V	I	IV	V	V	I	IV	V	V	
2 — 7	V	V	V	V	V	I	IV	V	V	I	IV	V	1

↑ ↑ ↑
1st, 2nd, 3rd nights after young was weaned.

* The vaginal smear stage was classified according to Kita *et al.*¹⁾ as follows.

I: Proestrus, III: Metestrus I, IV: Metestrus II, V: Diestrus.

** Young was weaned in the afternoon of the 21st day after birth.

the second or on the third night after young was removed. It is clearly indicated by these observations that the post-weaning estrus occurs on the second or on the third night after young was removed in the large majority of the Chinese hamster.

Only one out of nine females that nursed five youngs, 11.1%, returned to estrus on the second night. On the other hand, in six out of thirteen females who nursed less than four youngs, 46.1%, post-weaning estrus occurred on the second night. Thus the number of suckling young per mother, i. e., intensity of suckling stimulus, seems to be effective on the onset of the post-weaning estrus in the Chinese hamster.

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