Eosinopenia During Last Third of Pregnancy and After Delivery in Several Stocks of Mice.* (20353)

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In the course of other work it was noted that the eosinophil count of mice in an advanced stage of pregnancy, or within a day or two after delivery, was lower than that of non-pregnant females of the same stock. The data presented in this report appear to verify this impression.

Materials and methods. Pregnant and non-pregnant mice from the breeding colony of the Division of Cancer Biology at the University of Minnesota were used for study. The stocks employed have been described(1). Mice for which counts were obtained on the day of delivery or on the following day constitute Group I (post partum). The other mice studied had not delivered within 3 weeks prior to sampling. Some of them (Group II) were over 2 weeks pregnant at the time of sampling and delivered their young within the following 7 days. Other mice, which had not shown a marked increase in weight and which did not deliver young during the 32 days following sampling constitute Group III (the "control" group). It is possible that mice which had abortions were included in this latter group. The mice constituting Group III were selected to match in age ($\pm$ 10 days) the mice of the experimental groups, which were from 3 to 10 months of age. The animals were individually housed for 36 to 96 hours prior to sampling. The cages were kept in a room in which activities necessary for the maintenance of other mice continued without change. Room temperature varied between 73 and 85°F. The room was illuminated during the day and dark at night. Purina Fox Chow and tap water were available to the mice, *ad libitum,* from weaning and throughout this investigation. Samples of blood were obtained during specified periods of the day and the eosinophil counts were recorded with notation of the time. The procedures employed for eosinophil counts have been described(1).

Results. It appears from Fig. 1 that eosinopenia is characteristic of the first 2 days after the delivery of the young, in the stocks of mice examined. Table I indicates that on the average the eosinophil level of mice pregnant 2 weeks and more is lower than that of non-pregnant mice of the same stock. Examination of the 2 sections of Table I also reveals that eosinopenia during the third week of pregnancy is observable in data from samples collected at night as well as in data from samples collected during the day.

Discussion. It can be seen from Table I that the differences observed in mean eosinophil level between pregnant and non-pregnant mice of the Ax and Zb stock are significant below the 5% level. Comparable data describing mice of the A stock and the Z stock show the same trend, even though the differences observed are not significant statistically.

A mice differ from Ax mice and Z mice differ from Zb mice by the presence of the mammary tumor milk agent. The presence of this agent does not appear to influence the characteristic eosinophil level in 6-months-old males of the A and the Z stocks(1). The question whether or not the presence of the agent has an effect on the degree of eosinopenia noted in females of 2 stocks of mice prior to and shortly after the delivery of the young cannot be discussed on the basis of these limited data. If the problem of a possible effect of the milk agent on eosinophil levels during pregnancy should be of interest to other workers, the standardization of the circumstances of study may prove to be imperative. Routine conditions prevailing in a breeding colony do not seem to be satisfactory for the quantitative evaluation of a variable as sensitive to environmental factors as the eosinophil level. For the same reason a comparison of the day and night levels obtained

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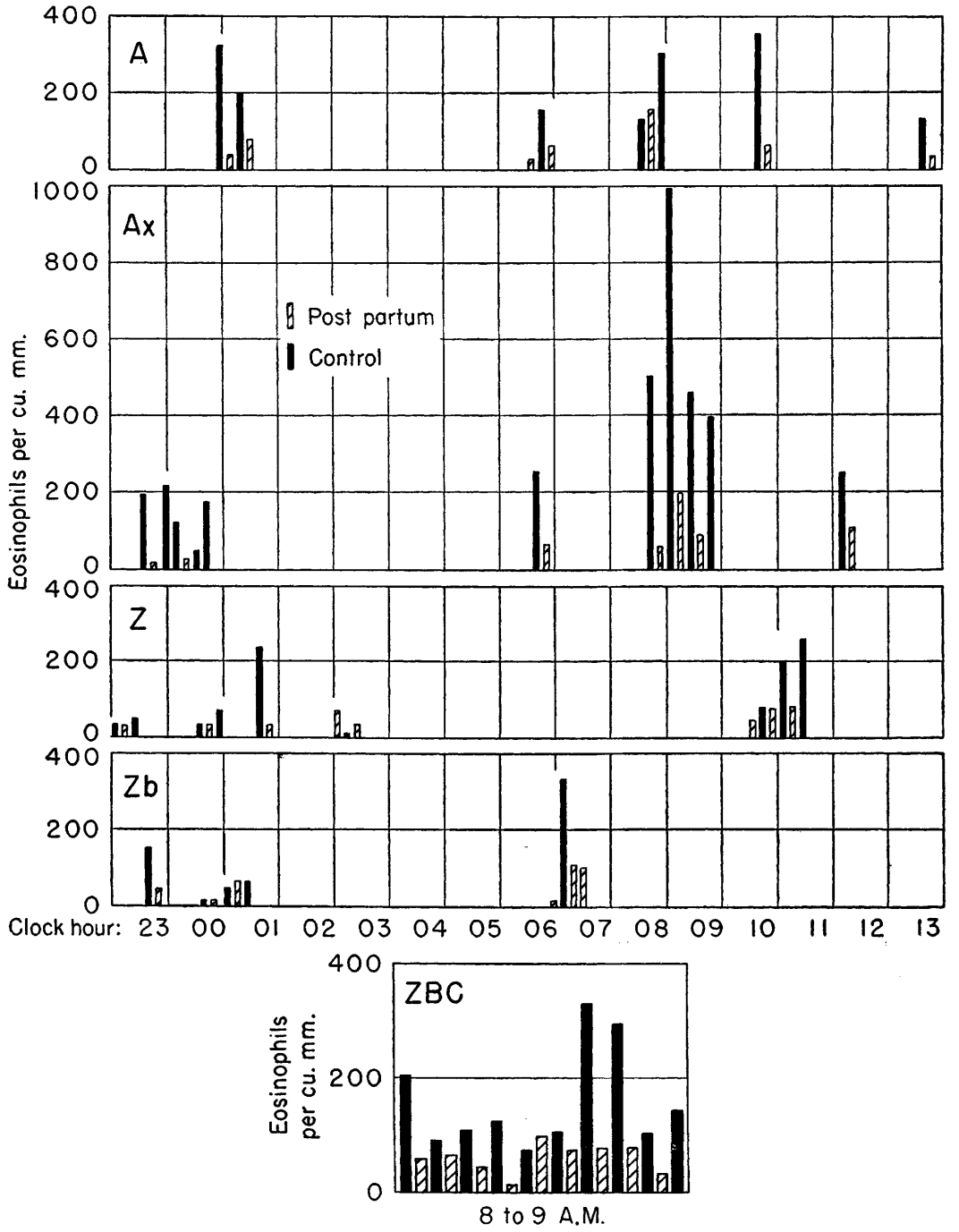

FIG. 1. Post partum eosinopenia in several stocks of mice.

for the stocks studied does not appear to be justifiable.

The observation of eosinopenia post partum in mice is in keeping with an earlier finding on the human. Davis and Hulit reported a marked decrease in number of eosinophils during labor as well as the persistence of low eosinophil levels through the first day post

TABLE I. Eosinopenia during the Last Third of Pregnancy in the Mice Investigated.

Stock	Type	No. of mice	Mean No. of eosinophils	Difference	t	P_t
	Section I. Samples obtained from 08:30 to 13:00					
Zb	NP	4	133	73	2.598	.026
	P	8	60			
Z	NP	8	121	47	1.289	.217
	P	9	74			
Ax	NP	5	518	428	2.966	.021
	P	4	90			
A	NP	4	164	32	.923	.375
	P	10	132			
	Section II. Samples obtained from 22:00 to 02:30					
Zb	NP	7	66	51	2.481	.029
	P	7	15			
Z	NP	4	80	42	1.023	.333
	P	7	38			
Ax	NP	9	212	111	2.837	.011
	P	10	101			
A	NP	6	174	53	2.966	.260
	P	8	121			

NP = nonpregnant; P = pregnant.

partum(2).

Summary. Eosinopenia was observed during the last third of pregnancy in several stocks of mice. The mean eosinophil level of females of the Ax and the Zb stock, pregnant 2 weeks and more, was less than half of that noted in non-pregnant mice. Eosinopenia was also noted during the 48 hours following the delivery of the young.

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1. Halberg, F., Bittner, J. J., and Visscher, M. B., *Blood,* 1951, v6, 832.

2. Davis, M. E., and Hulit, B. E., *J. Clin. Endocrinol.,* 1949, v9, 714.

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Serial Propagation *in vitro* of Agents Producing Inclusion Bodies Derived from Varicella and Herpes Zoster.* (20354)

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It is generally accepted that serial propagation in the laboratory of the agents of varicella and of herpes zoster has not heretofore been accomplished. Certain of the earlier published reports regarding their serial propagation have more recently been attributed to possible confusion with viruses pathogenic for lower animals. However, morphological evidence has suggested that a single passage of the agents of varicella and herpes zoster has been achieved. Thus Rivers(1,2) observed focal lesions with intranuclear inclusions in the monkey testicle following the local inoculation of varicella vesicle fluid. Goodpasture and Anderson(3) grafted human skin on the

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