Effect of the Mammary Tumor Agent on Species other than the Mouse

The effectiveness of the mammary tumor agent in different strains of laboratory mice has been reviewed by ANDERVONT[1]. This same author showed that the agent is active in the wild house mouse[2], while feeding of extracts of virus-induced mammary tumors to deer mice failed to produce tumors (cit, in [1]). Recently, virus-like particles similar to those found in the milk of C_3H mice harbouring the agent[3] were demonstrated in human milk as well. GROSS, GESSLER, and MCCARTY[4] were able to establish some correlation between the presence of these particles in human milk and the occurrence of breast cancers in the family history. The aim of the present study was to investigate the species specificity of the mammary tumor agent.

Twenty-five female C_3H_f mice (originating from ova of the milk agent carrying C_3H mice transplanted into C_{57} females), twelve female *Peromyscus maniculatus*, twenty-one female SHERMAN albino rats, twenty-five Syrian golden hamsters, twelve female English smooth hair guinea pigs, and four female New Zealand white rabbits were injected intraperitoneally at the age of three to four weeks with 0·1 ml of a 10% suspension of pooled spontaneous mammary tumors of C_3H mice. The tumors were homogenized, diluted with Tyrode solution, and centrifuged at 1000 Rpm. The supernatant fluid was stored in the deep freezer for about two weeks. All these operations were carried out aseptically. The mice were kept in breeding units of five females and one male each of the same strain. Rat breeding units consisted of three females and one male, the males being rotated between the units weekly. *Peromyscus maniculatus* were kept in cages with one female and one male. Female hamsters occupied single cages into which males were introduced for one week after each pregnacy until the next pregnancy occured. Rabbits occupied individual hutches and were mated after each pregnancy. Guinea pig breeding units were composed of two females to one male. All animals were kept in air conditioned quarters at 21°C. The rabbits and guinea pigs were maintained on Rockland guinea pig pellets; all other species on Rockland complete rat food *ad libitum*. Water, timothy hay bedding, and (twice weekly) mixed green vegetables were given *ad libitum* to all species. The mice and *Peromysci* received, in addition, cow's milk twice weekly.

From the third litter of each generation, inbred units were set up for further observation. The fourth litter of the rats was removed and newborn C_3H_f mice were placed in the nests. The offspring of these fosternursed mice were inbred as above.

The Table sets forth occurrence of mammary tumors in the females within the observation period. Animals which died before the age of nine months without tumors are not included in this table. Because of a laboratory accident, all *Peromysci* died after the eighteenth month.

The milk factor agent did not affect any other species but the C_3H_f mice. The agent seems not to appear in the milk of rats which were previously injected with the agent, since C_3H_f mice fostered on these rats did not develop tumors.

Species	No. of females observed	Maximal observation period months	No. of mammary tumors	Mean tumor age months
C_3H_f mice	23	24	16	10·2
F_1	25	19	18	12·1
F_2	22	14	15	9·9
F_3	24	9	8	9
Peromyscus maniculatus	12	18	0	—
F_1	14	13	0	—
F_2	11	8	0	—
SHERMAN rats	21	24	0	—
F_1	19	19	0	—
F_2	23	13	0	—
F_3	24	8	0	—
C_3H_f mice fostered on SHERMAN rats	12	18	0	—
F_1	13	13	1	12
F_2	15	8	0	—
Syrian golden hamsters	20	24	0	—
F_1	24	20	0	—
F_2	18	16	0	—
F_3	21	14	0	—
English smooth hair guinea pigs	10	24	0	—
F_1	11	13	0	—
New Zealand white rabbits	4	24	0	—
F_1	4	11	0	—

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Zusammenfassung

Virushaltiger Extrakt von Brustdrüsentumoren der Maus wurde jungen Kaninchen, Meerschweinchen, Goldhamstern, Ratten, Tieren der Species *Peromyscus* und «C_3H_f»-Mäusen injiziert.

(Der C_3H_f-Stamm wurde von Ova-C_3H-Mäusen erhalten, die in Weibchen des C_{57}-Stammes transplantiert worden waren. Diese sind zwar frei von dem tumorbildenden Virus; sie sind aber für dieses empfänglich.) Nur in «C_3H_f»-Mäusen gab es Brustdrüsentumoren. «C_3H_f»-Mäuse, die an mit Virus infizierten Ratten gesäugt worden waren, blieben frei von diesen Geschwülsten. Das Virus scheint demnach im Rattenorganismus zerstört zu werden.

[1] H. B. ANDERVONT, in: *A Symposium on Mammary Tumors in Mice*, Publ. Am Assoc. Adv. Sci. *22*, 123 (1945).

[2] H. B. ANDERVONT, Fed. Proc. *10*, 349 (1951).

[3] S. GRAFF, D. H. MOORE, W. M. STANLEY, H. T. RANDALL, and C. D. HAAGENSEN, Cancer *2*, 755 (1949). – R. D. PESSEY, L. DMOCHOWSKI, R. REED, and W. T. ASTBURY, Biochim. Biophys. Acta *4*, 391 (1950).

[4] L. GROSS, A. E. GESSLER, and K. S. MCCARTY, Proc. Soc. Exp. Biol. Med. *75*, 270 (1950).

Action antiinflammatoire comparée de l'A.C.T.H., de la cortisone et du salicylate de soude

L'action antiinflammatoire de l'A.C.T.H. et de la cortisone a été mise en évidence par de nombreux au-