

14247

Elimination of Ulcerative Cecitis from a Rat Colony by Chemotherapy of Mothers.

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In a previous paper¹ we showed that administration of sulfaguanidine to the mothers during pregnancy and lactation largely prevented the development of ulcerative cecitis in the young of rats. The experiments were carried on under special controlled conditions, but their real object was to devise a method whereby, in practice, cecitis could be eliminated from a rat colony in which the disease had been highly prevalent for several years. The present report describes the outcome of such a practical trial.

Ulcerative cecitis, thoroughly described in the recent literature,² "broke out" in the Stanford rat colony in 1940. Young rats were not affected but from the age of 6 months on from 50 to 80% of the animals showed the disease, usually in an advanced stage. It was impossible to continue the regular work of the laboratory. Between September 1941 and June 1942 a large number of stock animals were killed to determine the actual incidence of cecitis. It should be emphasized that during this entire period there was no evidence of a spontaneous decrease of the disease. The results of this survey are shown in Table I. From February 1942 on, all the females used for breeding received 0.5% sulfaguanidine in

their stock ration during pregnancy and lactation. This procedure is still being continued at the present time (May 1943). Between January and May 1943 stock rats born of the mothers treated with sulfaguanidine, but having themselves received none of the drug, were sacrificed in order to compare them with the controls from untreated mothers. The results are also shown in Table I.

It is seen that in rats from 4 to 8 months old the over all incidence of cecitis was reduced from 55% to 4.5%. Furthermore the few animals from treated mothers which developed cecitis showed the disease only in mild form.

Conclusions. We have previously shown that ulcerative cecitis of rats can be prevented by adding sulfaguanidine to the food ration. The present observations indicate that the disease may be largely eliminated from a colony in which it is endemic by treatment of the mothers during pregnancy and lactation only. This procedure effects an economy of chemotherapy which reduces the expense to a reasonable level. These observations confirm and amplify those previously reported.

TABLE I.
Reduction of Incidence of Ulcerative Cecitis in a Rat Colony after Treating Mothers with Sulfaguanidine.

Age when sacrificed (mo)	2-3	3-4	4-5	5-6	6-7	7-8
Controls from Untreated Mothers.						
No. of animals	24	27	50	57	52	75
No. with cecitis	1 (4.2%)	2 (7.5%)	22 (44%)	31 (54%)	26 (50%)	50 (66%)
Animals from Mothers Who Received Sulfaguanidine.						
No. of animals			32	45	22	33
No. with cecitis			1 (3%)	3 (6.5%)	0 (0.0%)	2 (6.0%)

All rats 4-8 months old from untreated mothers 234, incidence of cecitis 55.0%.

All rats 4-8 months old from treated mothers 132, incidence of cecitis 4.5%.

¹ Bloomfield, A. L., and Lew, W., *Am. J. Med. Sc.*, 1943, **205**, 383.

² Stewart, H. L., and Jones, B. F., *Arch. Path.*, 1941, **31**, 37.