



MINK RETURN TO FILE DISEASES



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THE FAILURE OF VITAMIN B₁₂ AND FOLIC ACID IN THE TREATMENT OF GREY DIARRHEA

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The grey diarrhea syndrome in mink resembles a similar disease of man. As in many conditions of man and animals in which the cause is unknown, this human disease has become enveloped in a sea of eloquent terms—idiopathic¹ steatorrhea², nontropical sprue, and the idiopathic malabsorption syndrome.³ None are quite as picturesque as the mink farmers' descriptions—grey diarrhea, straight gut, and goose "droppers."

The signs in man are those of steatorrhea, flatulence (intestinal gas), weakness, and emaciation.² While the cause has not been determined, vitamin supplementation has proven effective in some instances. Davidson demonstrated the efficacy of using folic acid in the treatment of human patients with idiopathic steatorrhea.³

In veterinary medicine, Miller has reported success using vitamin B₁₂ and folic acid for the treatment of nontropical sprue in the dog.⁴ It is on the basis of these results that we initiated experimental vitamin therapy for the control of grey diarrhea in mink.

Procedure

Thirty-three mutation and standard dark mink, from Ingle Ranch, showing clinical signs of grey diarrhea were selected for the trial. All animals were 5 to 6 months old when

¹Idiopathic is a very convenient designation meaning "of unknown cause."

²Steatorrhea means the presence of excess fat in the feces.

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the experiment was started. The inoculations schedule and treatment results are given (Table 1).

All treatments were administered for four consecutive days with the exception of one group of six males. This group received 600 micrograms of vitamin B₁₂ and 6 milligrams of folic acid administered for four consecutive days, followed by two days with no treatment, and then four additional consecutive daily treatments.

Fourteen of the 33 affected animals were employed as a control group and received no treatment. All animals were fed all they cared to eat morning and evening. The diet was composed of 40% fish, 20% cereal, 20% poultry and 20% beef by-products.

Results

Steatorrhea, voracious appetite, dehydration and emaciation were the only clinical observations recorded, and were not quantitatively measured. Therefore, these results tend to be more subjective than objective but are, nevertheless, meaningful.

The animals were observed during and for thirty-five days after termination of treatment. During this period, there was no improvement in the experimental treatment group when compared to the control group in severity of signs.

References

¹Wollaeger, E. E., Green, P. A.: Idiopathic Nontropical Sprue (Malabsorption Syndrome). *Am. Jr. of Gastroenterology*. 35:569, 1961.
²Comfort, M. W., Wollaeger, E. E.: Nontropical Sprue: Pathologic Physiology, Diagnosis and Therapy. *A.M.A. Arch. Int. Med.* 98:807, 1956.
³Davidson, L. S. P.: Folic Acid in the Treatment of the Sprue Syndrome. *Lancet* 1:511, 1947.
⁴Miller, R. M.: Nontropical Sprue in a Dog. *Mod. Vet Pract.* 41:34, 1960.

Table 1

The Results of Experimental Treatment of Grey Diarrhea in Mink

Number of Mink	Sex	Vitamin B ₁₂	Folic Acid	Treatment	Series	Results of Treatment
3	Female	300 meg.	3 mg.	4 consecutive days	" "	No effect
5	Male	600 meg.	6 mg.	" "	" "	" "
1	Male	600 meg.	—	" "	" "	" "
1	Female	400 meg.	—	" "	" "	" "
1	Male	400 meg.	—	" "	" "	" "
1	Male	—	8 mg.	" "	" "	" "
1	Female	—	15 mg.	" "	" "	" "
6	Male	600 meg.	6 mg.	4 consecutive days, 2 days no treatment, 4 consecutive days with treatment	" "	" "
14	Male Female	—	—	Controls: no treatment.	" "	No change

meg.=micrograms; mg.=milligrams; All inoculations were given by the intramuscular route.



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