

Twenty-seven dogs were subjected to acute obstructive jaundice by ligating and dividing the bile ducts. Estimations of the fibrinogen content, icterus index, and coagulation time of the blood were made at intervals. Six of the animals died within 3 or 4 days after operation. Of the remaining 21, all died (average length of life 31.6 days), the only assignable cause of death being diffuse hepatitis. This was found in an overwhelming majority of the cases to be fatty necrosis with degeneration in the centers of the lobules.

Conclusions. Fibrinogen content of plasma is not decreased but actually increased in acute experimental obstructive jaundice, probably due to irritative effect of bile on liver. Coagulation time remained above normal limits, but did not parallel the fibrinogen content of the plasma. Coagulation time is not a satisfactory index of a hemorrhagic tendency in the presence of jaundice. Diminution of fibrinogen content does not parallel the degree of liver destruction. The Wu method for determination of fibrinogen is not satisfactory when exact quantitative analysis of blood proteins is done. The Tyrosine equivalent for dogs was found to vary from 12.5 to 19.7. This was learned after determinations were made from 24 samples of blood. For comparative analysis as herein used, the Wu method serves the desired purpose.

5870

Motility of Gastro-Intestinal Tract of Rats on Vitamin D Deficient Diet with Varied Minerals.

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Previously we reported¹ that rats fed a deficient vitamin D diet with unbalanced minerals show a marked hypomotility of the gastro-intestinal tract. Subsequently² it was demonstrated that rats fed a diet deficient in vitamins A and D but with an adequate mineral balance show a gastro-intestinal motility similar to that of normal animals. The hypermotility produced by the absence of vitamin A³ was apparently balanced by the hypermotility produced

¹ Menville, L. J., Blackberg, S. N., and Ané, J. N., *PROC. SOC. EXP. BIOL. AND MED.*, 1929, **26**, 758.

² Menville, L. J., Ané, J. N., and Blackberg, S. N., *PROC. SOC. EXP. BIOL. AND MED.*, 1930, **27**, 894.

³ Gross, L., *J. Path. and Bact.*, 1924, **27**.

by the absence of vitamin D and for this reason it was believed that the unbalanced mineral content of the diet played a very small part in the hypomotility observed in the rats fed a diet deficient in vitamin D with unbalanced minerals. The present experiments were undertaken to substantiate or to disprove this hypothesis.

Three different groups of rats were used. One group was fed a diet deficient in vitamin D with unbalanced minerals for a period of 5 weeks. Another group was fed a diet deficient in vitamin D with an adequate mineral content for the same length of time. The third group was fed a normal diet for the same period. All the rats were made to fast and abstain from water for 24 hours when they were fed a 10 gm. mixture of 3 parts of buttermilk and one part of barium sulphate. Fluoroscopic examinations were made of all groups every 15 minutes.

A hypomotility of the gastro-intestinal tract was observed in the 2 groups of rats fed a deficient vitamin D diet. This observation was noted by us in rachitic rats. Our 2 groups of rats in this experiment would seem to indicate that the mineral content of the diet administered apparently played no part in the alteration of the gastro-intestinal tract.

TABLE I. (Averages)

Diets.	Cecum App. Time		Stom. Emp. Time		Sm. Int. Emp. Time		Colon Emp. Time
	hr.	min.	hr.	min.	hr.	min.	hr.
—D. High Ca, low P	1	55	8	27	9	56	93
—D. Normal minerals	1	56	7	56	9	16	96
Normal	2	15	6	18	7	46	60

Conclusion. It would appear from our observations that the cause of the hypomotility of the gastro-intestinal tract of rachitic rats is due to a lack of vitamin D and not to the unbalanced minerals of the diet.

5871

Some High Tremor Frequencies.

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Hill¹ demonstrated that in addition to the usual tremor frequency

¹ Hill, A. V., *J. Physiol., Proc. Physiol. Soc.*, 1927, **55**, xiv.