

that the bilirubin of the lymph, under these circumstances, is mainly of the prompt reacting type, a finding in accord with the concept of a regurgitation of bile into the lymph.

During the early phase of biliary obstruction, the injected bromsulfalein quickly appeared in the lymph. After 36 hours, however, it was not removed from the blood and did not appear in the lymph in appreciable

amount.

The cholesterol, on the contrary, did not increase significantly in the lymph within 24 hours, while the alkaline phosphatase behaved in an intermediary manner.

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Effect of Anoxic Anoxia on Gastric Emptying Time of Rats Fed Corn Oil.

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Anoxic anoxia has been shown to cause a delay in the emptying time of the stomach in the dog and in man. Moreover, in man, as in the case of the dog, the more severe the degree of anoxia, the greater is the delay in gastric emptying.¹

Studies on the effect of this type of anoxia on the absorption of fat from the alimentary tract in rats have shown that the amount of fat absorbed by animals subjected to partial pressures of oxygen of 63 mm and 53 mm Hg was significantly less than for control animals; the difference was greater for the greater degree of anoxia.² That these findings cannot be explained on the basis of a prolonged

emptying time of the stomach, however, is shown by the following experimental results.

Using the technic previously described,² adult albino rats of both sexes, weighing between 200-300 g were given 1.5 cc corn oil (1.385 ± 0.01 g) and subjected to a partial pressure of oxygen of 53 mm Hg (7.03% oxygen) for 2-, 3- and 4-hour periods. Simultaneously-fed control animals were kept at atmospheric pressure. The amount of fat remaining in the stomach was quantitatively determined and calculated as per cent of the amount fed. Preliminary experiments on rats killed immediately after feeding showed that the mean percentage recovery of the amount of fat administered was 96.5 (range 92.3 to 99).

The data, Table I, show that the amount of

TABLE I.
Effect of Anoxic Anoxia on Gastric Emptying Time of Rats Fed Corn Oil.
Oxygen tension—53 mm Hg (7.03% oxygen).

Absorption time	2 hr		3 hr		4 hr	
	No. of rats	Fat in stomach* %	No. of rats	Fat in stomach %	No. of rats	Fat in stomach %
Controls	12	68.4	11	49.5	12	41.3
Anoxic	11	37.4	12	30.0	12	35.7
St. Dev.		17.0		16.5		13.4
P. (Fisher's)		<0.01		0.01		>0.3

* Expressed as per cent of the amount of fat fed.

¹ Van Liere, E. J., *Physiol. Rev.*, 1941, **21**, 307.

² MacLachlan, P. L., and Thacker, C. W., *Am. J. Physiol.*, 1945, **143**, 391.

fat remaining in the stomachs of the anoxic rats 2 hours and 3 hours after feeding was significantly less than for the corresponding controls. On the other hand, no statistically significant difference was found at the end of 4 hours. (The individual variation which was greater for the rats subjected to anoxia, than for the controls, accounts for the apparently larger amount of fat in the stomach after 4 hours absorption time than after 3 hours). Although a delay in gastric emptying may have occurred later than 4 hours, these findings indicate an initial acceleration of the emptying of the stomach of rats exposed to diminished oxygen tension. For the purpose of these experiments, the results obtained show that the decreased rate of absorption of fat in rats subjected to anoxic anoxia, as previously reported, cannot be explained on the basis of a prolonged gastric emptying time.

Schnedorf and Orr³ reported that increasing degrees of anoxemia produced by inhalation of 15, 10 and 5% oxygen in nitrogen resulted in a marked and progressive decrease below normal in the flow of bile in nembutalized dogs. The decreased rate of fat absorption observed in rats subjected to partial pressures of oxygen of 63 mm and 53 mm Hg (8.35 and 7.03% oxygen, respectively) might reasonably result from a diminished flow of bile. Work on this phase of the problem is in progress.

Summary. Adult albino rats fed corn oil showed an initial acceleration of the emptying of the stomach on exposure to diminished oxygen tension. A decreased rate of absorption of fat in rats subjected to anoxic anoxia cannot be explained on the basis of a prolonged gastric emptying time.

³ Schnedorf, J. G., and Orr, T. G., *Am. J. Dig. Dis.*, 1941, **8**, 356.

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Latent Period Between Electrical and Pressure Pulse Waves Corresponding to Right Auricular Systole.*

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The exact time relationship between the onset of electrical activity and the appearance of a pressure wave corresponding to auricular systole has been, heretofore, unknown in man. The development of the technic of catheterization of the right heart¹⁻⁴ and the use of

a multiple blood pressure recorder with a synchronous electrocardiogram has made possible the study of this time relationship.

Preliminary tests for measuring the difference of transmission time of electrical impulses as recorded with the ECG and simultaneous mechanical impulses from the tip of a catheter connected with a Hamilton manome-

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¹ Counrand, A., and Ranges, H. A., *Proc. Soc. Exp. Biol. and Med.*, 1941, **46**, 462.

² Counrand, A., Lauson, H. D., Bloomfield, R. A.,

Breed, E. S., and Baldwin, E. deF., *Proc. Soc. Exp. Biol. and Med.*, 1941, **55**, 34.

³ Counrand, A., Riley, R. L., Breed, E. S., Baldwin, E. deF., and Richards, D. W., Jr., *J. Clin. Invest.*, 1945, **24**, 106.

⁴ Counrand, A., Bloomfield, R. A., and Lauson, H. D., *Proc. Soc. Exp. Biol. and Med.*, 1945, **60**, 73.