

4. Although marked edema of the chorio-allantoic membrane was noted in some of the infected, no pathognomonic lesion, gross or microscopic, was present, so that it was necessary in every instance to resort to back-

passage into rabbits to demonstrate the presence of virus.

5. The type of lesion produced in rabbits by the virus was not significantly altered by repeated passage in hen's eggs.

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Effect of Cholecystectomy on Fecal Fat Excretion in Dogs.*

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In a previous report¹ it was demonstrated that diversion of bile from the intestine in dogs results in the failure of absorption of about 60% of fat ingested in the diet. It was also found that oral administration of various bile salt preparations failed to correct this steatorrhea.² One of the questions raised by these results concerned the possible role in fat absorption of the manner of entry of bile into the intestine. It was of interest, therefore, to determine whether cholecystectomy, which converts the normal intermittent flow of concentrated bile into a continuous flow of dilute bile into the intestine,³ would result in a defect in fat absorption.

Methods. Eight normal dogs were placed on a daily diet of 335 g of "Pard" with 40 g added lard, making a total fat content of 53 g. After two days on the diet, feces were collected over a 10-day period and pooled for analyses of total fat and free fatty acids⁴ and for nitrogen (Kjeldahl). The animals were then cholecystectomized and allowed 2 weeks for recovery. Four animals were then replaced on the original diet while the other 4 were given a higher fat diet consisting of 200 g "Pard" with 70 grams added lard

(total fat content, 80 g). Feces were again collected over the last 10 days of a 12-day period, and analyzed. This procedure was next repeated, interchanging the diet for the two groups of dogs. Finally the dogs were sacrificed and autopsy revealed complete removal of the gallbladder and moderate dilation of the biliary passages.

Results. The mean daily excretions of fat and nitrogen in the feces of 8 dogs both before and after cholecystectomy are presented in Table I. The average total fat excretion of 2.43 g per day compares fairly well with the previously reported value of 3.51 g obtained from 5-day tests on 6 dogs and demonstrated to be independent of the fat content of the diet.¹ Cholecystectomy did not significantly alter this rate of fat excretion. Following the operation the percentage of split fecal fat significantly increased; the meaning of this is obscure since further analysis showed that it occurred only during the first experimental period following cholecystectomy. Fecal nitrogen excretion was unaffected by cholecystectomy, although the lower "Pard" content of the high fat diet resulted in diminished nitrogen excretion, due as previously suggested¹ to the reduced content of crude fiber.

Discussion. The present results clearly indicate that there is no impairment in the absorption of dietary fat or nitrogen subsequent to a change from an intermittent flow of concentrated bile to a continuous flow of dilute bile into the intestine. These results confirm a previous study in which 6 dogs were given

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¹ Heersma, J. R., and Annegers, J. H., *Am. J. Physiol.*, 1948, in press.

² Heersma, J. R., and Annegers, J. H., *Proc. Soc. Exp. Biol. and Med.*, 1948, **67**, 339.

³ Puestow, C. B., *Arch. Surg.*, 1931, **23**, 1013.

⁴ Fowweather, F. S., and Anderson, W. N., *Biochem. J.*, 1946, **40**, 350.

TABLE I.
Fecal Fat and Nitrogen Excretion Before and After Cholecystectomy.
Means of 10-Day Tests on 8 Dogs.

Condition	Dietary fat g/day	Total fecal fat g/day		% free fatty acids		Fecal N, g/day	
		Mean	t-ratio*	Mean	t-ratio*	Mean	t-ratio*
Normal	53	2.43	—	68.6	—	.96	—
Cholecystectomy	53	1.96	.99	82.4	2.45†	1.09	2.06
„	80	2.44	.03	80.9	2.47†	.76	4.13‡

* Post-operative tests paired with normal tests.

† Significant at 5 per cent level of probability.

‡ Significant at 1 per cent level of probability.

unspecified amounts of fat and nitrogen over 48-hour test periods before and after cholecystectomy.⁵

Accordingly, in future experimental attempts to correct steatorrhea due to complete bile diversion, the manner of entry of bile preparations into the intestine, whether in continuous or intermittent doses, should not

alter the results.

Clinically, these results further imply that bile salt replacement therapy and strict limitation of dietary fat are unnecessary as far as fat absorption is concerned in uncomplicated cases of cholecystectomy.

Conclusion. In 8 dogs studied both before and after operation, cholecystectomy produced no significant change in the daily excretion of fat or nitrogen in the feces.

⁵ Balice, G., *Morgagni*, 1928, **70**, 835.

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In vitro Antibacterial Action of Extracts from Coptis Root.

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Recent investigations have demonstrated that higher plants are potential sources for antibiotics,¹ and, specifically, extracts of certain Chinese medicinal plants showed bacteriostatic action.² In view of the great potentialities of such a finding especially in relation to the study of the nature of action of some of the well known Chinese drugs, a detailed study of the root of *Coptis chinensis*, Franch, belonging to the family of Ranunculaceae,³ has been made in the past 7 months. The present paper is a preliminary report of

the antibiotic activity of the dilute alcohol extract of the coptis root against a number of microorganisms *in vitro*.

Method of Extraction. Samples of coptis root of Szechuan variety were obtained mostly from a well established and reputable Chinese pharmacy, Hsi Ho Nien Tang, Peiping, and some directly from Szechuan. The antibiotic activities of all the samples extracted with the method described below were found to be approximately the same. The macerated dried roots were placed in a large flask with 10 parts of 50% alcohol, and set aside at room temperature for 24 hours. At the end of this period the entire suspension was boiled for 30 minutes and filtered while hot through ordinary filter paper. The clear yellowish

¹ Benedict, R. G., and Langlyke, A. F., *Ann. Rev. Microbiol.*, 1947, **1**, 193.

² Hsü, C. L., *Nat. Med. J. China*, 1947, **33**, 75.

³ Read, B. E., *Chinese Medicinal Plants from Pen Ts'ao Kang Mu*, 1936.