ture and by insertion of a ureteral catheter up the common duct into the gall bladder. In the latter cases the common duct was ligated at the site of injection. The accompanying table shows that the bile salt content was reduced on the average to about 25% of normal figures while the cholesterol content was approximately doubled.

TABLE I. *Injection of Bacteria into Dog's Gall Bladder.*
Figures for bile salts and cholesterol in mg. per 100 cc. Duration of experiments, 4 days.

No. of Exps.		B.S.	Chol.	B.S./ Chol.
4	2 cc. cloudy suspension of streptococcus injected up common duct into gall bladder with catheter	1706	92	19
2	2 cc. same through needle puncture into lumen	1545	111	14
4	2 cc. filtered emulsion dog feces up duct	88	86	1
3	2 cc. same into lumen	217	118	2
2	2 cc. same subserous	1230	300	4
	Average	893	126	7
81	Normal controls	3630	55	66

In vitro control experiments show that no such changes are effected by the action of bacteria on bile.

That this rise in the cholesterol content is not due to secretion of cholesterol by the gall bladder wall is shown by the previously reported series of 57 experiments in which closed infected gall bladders showed no increase in the cholesterol content.

Conclusion. The infected gall bladder of the dog absorbs bile salts and continues to concentrate cholesterol to levels at which it can no longer be held in solution by the bile salts.

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Influence of Saponin on Absorption of Calcium Salts from the Intestine.

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We have followed the curve of blood calcium concentration in normal dogs following the administration of calcium lactate in quantities of 0.5 or 1.0 gm. per kilo body weight, given in water solution, 20 cc. per kilo, with the addition of saponin in concentrations varying from 1.0 to 0.01%. Two preparations of saponin were used, Merck's purissum album and Morgan's. In control

experiments carried out on the same animals one week previously, the calcium lactate solution was administered without saponin.

The method of determining the plasma calcium content was that of Kramer and Tisdall as modified by Tweedy and Koch[1] and by Pincussen and Schimmelpfeng.[2]

The initial blood calcium values in 48 experiments, showed a mean of 11.4 mg. ± 0.069 mg. The maximum reached in 24 control experiments was 13.65 mg. ± 0.157 mg. The maximum reached in 24 saponin experiments was only 13.92 mg. ± 0.134 mg.

There was no evidence that the duration of the rise in blood calcium was effected by saponin. If the blood calcium curve can be taken as an index of calcium absorption, the influence of saponin, in the dog, appears to be negligible.

Positive effects have been reported in studies on the isolated intestine of the guinea pig,[3] on mice,[4] and on man.[5] The recent studies of Wokes,[6] however, have failed to confirm some of the earlier work.

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A Method for Estimation of Both Bile Salts and Cholesterol in Small Amounts of Bile.

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In experimental and human studies on the chemistry of the bile, it often happens that only very small amounts of bile are available in the gall bladder, as the contents of the diseased viscus are frequently very scanty. It is in these very ones that analysis of the bile may be the most important. The following method enables one to determine both the bile acids and cholesterol in a single cubic centimeter of bile.

Following the suggestion of Dr. F. C. Koch the marked affinity of petroleum ether for bile salts was utilized. The principle is that petroleum ether has the power of making a quantitative separation

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