

and bile passages, but it may be found in other mucous passages as well. Cholesterin is held in solution by the bile salts, and the diminution of these may account for its precipitation, and as a result we have a splendid nidus for the formation of a calculus. A large increase in the amount of cholesterin present probably favors the formation of gallstones. As the bile salts are produced by the metabolism of nitrogenous foods, one would expect that meat-eaters would suffer less from this affection than others. That this is so, to some extent at least, seems to be proven by the fact that in Germany there is a larger percentage of this affection than in England, where so much meat is consumed. Stagnation of the bile contributes to the formation of gallstones, and consequently any habit of life which favors this stagnation should be avoided. There can be no doubt that the indolent life led by many fleshy women and some stout men favors the formation of these concretions.

The bacterial origin of gallstones is now most generally admitted, the organism most often found being the bacillus coli communis and bacillus typhosus. The staphylococci and streptococci have also been found capable of causing calculi.

In the Johns Hopkins Hospital about thirty-three and one-third per cent. of the operations performed for cholelithiasis gave a history of typhoid fever.

Experiment has shown that a foreign body when placed in the gall bladder of a guinea pig may stay there indefinitely without producing any inflammatory action or precipitating the salts. If, however, these bodies were previously infected with virulent micro-organisms, they would produce inflammatory action and precipitation of the salts. An interesting fact about this, however, is that this sediment shows no tendency to cohere. The bacteria must be attenuated before they will cause the adherence of the sediment to foreign bodies.

If one bears in mind the bacterial origin of gallstones, and remembers too that anything which interferes with the free discharge of bile has a tendency to promote their formation, one will easily see that constipation must be regarded as a contributing cause in this affection. If the peristaltic action of the bowels is abnormally low and the secretions in the mucous glands reduced, it naturally follows that a smaller amount of bile passes into the intestines. Partly on account of want of stimulation, but also on account of