

Under the guidance of Professor Archibald, the following work undertaken is of special interest:

Drs. Wilkie and Doubilet in their studies on the etiology of cholesterosis of the gall bladder and of cholesterol stones have obtained interesting results. This paper awaits publication. It has been definitely proved that the process is one of filtration or transudation rather than a secretion, for the amount of cholesterol passing between the bile and blood was relatively proportional to the ratio between the percentage of cholesterol in the blood and the percentage of cholesterol in the bile. These experiments have been repeatedly performed and carefully controlled.

Concurrently with these experiments they have determined the relation of calcium of the bile to the normal gall bladder. Results show that during the period of bile concentration in the gall bladder, calcium is lost from the bile to the blood. This tends to bear out their previous observation on cholesterol that the gall bladder mucosa tends to act as a filtration membrane. The changes noted are small, due to the fact that part of the calcium is bound up as calcium bilirubinate, and since there is no loss of bilirubin during the period of concentration of the bile, the calcium tends to be retained in the gall bladder bile. Determination of bilirubin in the liver bile is now being carried out in order to ascertain the relationship between the blood and bile calcium.

All this work is but a continuation of what was carried out during the previous year, but has now been brought to a completion.

Dr. Harwood, Biochemistry, assisted in the determination of the bile acids and of cholesterol, thus helping in the surgical problem suggested by Dr. Archibald.