

the empyema had again formed. The patient was an elderly gentleman and death occurred on the thirteenth day from general asthenia. Of the operations for stone, all stones removed were of the common duct type. None were stones which had escaped from the gall bladder. Those cases in which stone was found also showed marked evidence of cholelithiasis. I do not think any of them were cases of overlooked stone, but of recurrent stone. The ducts in all the stone cases were wide, easily explorable at each operation, with dilatation of ampulla of Vater, with stiff walls, that showed the infection was of long standing. The condition was favorable for the reformation of calculi. Whereas in many of the cases in which choledochotomy was performed in association with cholecystostomy and cholecystectomy as a primary operation there were found stones in the hepatic duct, in this particular series of secondary operations such was not the case at the primary operation. At the primary operation in these cases stones were present in the common duct only, so I do not think there were any liver stones which subsequently came down to the ducts, but rather they were stones which formed in the duct itself. There were of these recurrent stone cases two which had two secondary operations performed. These cases form a very considerable argument for the early removal of the gall bladder before the disease has progressed beyond the gall bladder itself. In old chronic cases with great thickening and dilatation of the common duct it is wise to open the duct before palpating it, otherwise a

floating stone such as forms in the second portion of the duct may float up into one of the intra-hepatic ducts and be overlooked. There may be cases in which stones have been overlooked in the common duct, but since in these old chronic cases conditions are ideal for stone formation and since stones have been found in the common duct at secondary operations after the most careful exploration, both as regards digital exploration and duct exploration and washing out of the ducts, it is fair to suppose that a certain number of these stones at least, are recurrent and not overlooked stones. Where one has been in the common duct three times in the same patient as I have and has found one stone at the first operation, three stones at the second and two at the third, all stones of a large size and at which a most careful exploration was done at each operation, it is not reasonable to suppose that such stones were overlooked stones. Nor were they stones which came down from the gall bladder having been overlooked there; they all were of the bilirubin type with but little cholestrin. They were of the typical irregular shape, friable in construction and not polished or faceted. I have yet to add to my collection that rare variety of common duct stone, a small yellow faceted stone such as forms at times in the dilated intra-hepatic ducts, being of a similar type to the small yellow faceted stone in the gall bladder. Common duct stones are irregularly shaped, black, friable, contain little cholestrin, contain much bilirubin and calcium, are not polished or faceted. Nor do they show the nucleus of a typical