

there would be a better state of diagnosis and a greater number of relieved and rejuvenated patients to rejoice over the graves of these bugbears." With an experience of over seventeen hundred cases of gall-tract disease, Dr. Mayo impresses the necessity of early diagnosis and operation in gall-stone cases before jaundice and other complications develop. In the early stages of gall-bladder disease, the mortality is low, about $2\frac{1}{3}$ per cent. If the operation is postponed until drainage in ducts is interfered with and jaundice is present, the mortality rises to $11\frac{1}{3}$ per cent. In the early diagnosis of these cases we must have in mind the conditions that so frequently give similar symptoms, namely, stone in the right kidney, ulcer and carcinoma of the duodenum and stomach, pancreatitis, and appendicitis. There is one combination of symptoms, which Dr. Graham states the greater number of cases fall under—sudden and severe pain at stomach area, at times without radiation, but frequently directed to the back or right shoulder region, always of short duration, occasional vomiting with abrupt disappearance, and immediate return to almost normal health. Add to this, sensitiveness of the gall-bladder area, and we can make a diagnosis with little chance of error. In some cases a definite diagnosis is impossible, yet a surgical diagnosis can be made, and the offending condition attacked. Jaundice is rarely present at the stage when it is essential to diagnose and give the patient the benefit of early treatment and low mortality. When the stone passes into the common duct, the condition changes from a simple local disease to one of severity and danger from cholæmia and liver infection. This infection may simulate ague, in fact it was the "bilious remittent fever" of former years—chills with a temperature of $103-107$, followed by free perspiration and intensification of jaundice. In such conditions stones may form in the minute bile ducts. Operations during this acute stage of infection are especially dangerous; postponement is necessary until the quiescent stage is established. Operation is always fatal in those cases in which no bile is found in the ducts, there being present a clear fluid. In these cases, the liver has been put out of action. In the early stages of this condition, when the ducts are filled with dark-green bile, before the pigments have been absorbed, operation presents a better showing. In about 50 per cent., the liver will resume its functions and the patient recover.

Thorough drainage is Dr. Mayo's watchword in all operations on the bile passages. After the removal of stone from the common duct, a fish-tail drain is frequently inserted through the gall bladder and systic duct into the common duct. A drain is also placed on either side of the common duct opening, another in Morrison's pouch, and another below the pylorus. Cholecystitis, without stones, is usually treated by removal of the gall-bladder, as these cases are infected and, if treated by drainage,