

when the inspiration suddenly ceases as though it had been shut off. I have never found this sign absent in a case of calculus or in infectious cases of gall-bladder disease."—Murphy.

The meteorism, localized tenderness and rigidity of the abdominal wall may be such as to make satisfactory palpation difficult or impossible. In a few cases, however, a gall-bladder distended by calculi, or by fluid, mucous, purulent, etc., in nature, or by both calculi and fluid, can easily be mapped out. A gall-bladder contracted by inflammation does not give rise to a palpable tumor.

JAUNDICE.

In the diagnosis of gall-stone disease, too much significance has been attached to the symptom jaundice. It is an important sign, but is not to be considered essential to diagnosis; like hemorrhage in duodenal ulcer, it ought not to be waited for. Jaundice may not occur at all, it may be inconspicuous, it may be late, it may be inconstant. In some cases each attack of gall-stone colic is followed by transient jaundice. The jaundice is accompanied by its usual concomitant manifestations, digestive disturbances, beer-brown urine, clay-colored stools.

In diseases of the biliary passages, icterus is of two forms; it is of inflammatory or of lithogenous origin. The cause of the first is an inflammatory swelling of the mucous membrane of the biliary passages. In gall-bladder infections, the swelling of the mucous membrane may extend and involve the common and hepatic ducts and thereby obstruct the bile flow. The mechanical occlusions, partial or complete, of the common duct by a calculus, causes lithogenous jaundice. Icterus is frequently due to both inflammatory and calculous obstruction.

As long as a calculus remains in the gall-bladder, or in the cystic duct, jaundice is not likely to appear. In a large number of the cases in which jaundice is observed, there is present, with or without other calculi, a common duct stone. In a lesser number of cases, the provocative causes are a compression of the common duct or of the extra-hepatic part of the hepatic duct by a large stone in the cystic duct, by swollen lymph-glands, by inflammatory exudates, by adhesions compressing or kinking the ducts, etc.

COLIC.

As stated before, gall-stones cause pain through the irritation, infection, and inflammation that result from their impaction in the neck of the gall-bladder or in any part of the bile-ducts. They also cause a characteristic lancinating pain, agonizing in nature, by meandering through the bile ducts for a shorter or longer distance and setting up a spasm of the muscular wall behind the stone. This latter pain is in-