

stone, it may be caused by mucus or pus in bile-ducts, by cicatrized ulcers, adhesions, the pressure of a growth, or by paresis of an over-distended gall-bladder.

3. If stones do not pass directly into the duodenum, nor become impacted in the ducts, they must make their way through the walls of the gall-bladder or ducts into the intestines, or elsewhere; and the only course left for the surgeon is to cut down and remove the obstruction.

A painful onset of chronic jaundice must always give rise to the suspicion either of chronic catarrh, dependent on cancer of the liver, or of occlusion of the hepatic or common bile-duct by a growth; and, if this be associated with distension of the gall-bladder and rapid loss of weight and strength, cancer of the head of the pancreas will probably be found.

On the other hand, the history of an attack of pain in the upper abdomen, followed within twenty-four or thirty-six hours by jaundice, and preceded by so-called "spasms," either recently or at some remote period, is highly suggestive of gall-stones. In the latter case, the jaundice will probably be less intense than in the former, and an intermittent fever with chills and sweats will probably be present or have been noticed at some stage of the illness.

Enlargement of the liver is much more common from obstruction due to cancer than in that from gall-stones—though it may be present in either. In cancer, however, nodules or irregular masses may be discerned; and in gall-stones an elongation of the right lobe of the liver, which is apt to be mistaken for distended gall-bladder, can often be felt. A rigid right rectus abdominus and tenderness one inch above and to the right of the umbilicus is suggestive of gall-stone trouble as in McBurney's tender spot of appendicitis.

A gall-bladder distended with bile indicates a movable stone in the cystic duct; a gall-bladder distended with clear white fluid indicates a complete obstruction of the cystic duct of long standing. When the gall-bladder is thickened and phlegmonous there is almost certainly a stone obstructing the cystic duct. When the gall-bladder is contracted, or nearly obliterated, there is usually a stone in the common duct.

SYMPTOMS AND DIAGNOSIS.

In that comparatively small region that lies between the lower border of the ribs and cartilages and a line drawn at the level of the umbilicus, are found a large proportion of the diseases that call for treatment in ordinary practice. Occupying