

diagnosis being made, and thus, by early operation, avoid all the serious complications which later on are so liable to arise. Operation at this time is also followed by practically no mortality.

The gastric disturbances indicative of early gall-stones formation are frequently but slight, are scarcely considered by the patient, and oftentimes entirely overlooked by the physician. These are sudden and irregular attacks of fulness in the epigastric region, having no definite relation to the ingestion of food. The sensation may be even one of extreme tightness, which, unless relieved by loosening the clothing, may finally be productive of pain. Deep inspiration will frequently produce a pain in the region of the right costal margin. In a small percentage of these cases chilliness is occasionally observed after meals, the evening meal more particularly. The typical syndrome of symptoms of this early stage of gall-stone disease may be conveniently described as epigastric fulness, gas, and a sense of weight and upward pressure in the epigastrium, coming on from half an hour to an hour after meals. This condition may be very irregular, it may be present after every meal, or only after an occasional one. These "dyspeptic" attacks are usually of short duration, and should they be immediately and entirely relieved by belching, or upon vomiting, they may be considered as truly pathognomonic of early gall-stone disturbance as the subsequent and more commonly recognized typical attacks of intense gall-stone colic.

The great majority of all operations performed on the gall-bladder or biliary ducts are for pathological conditions, the direct result of gall-stones. They are in most instances the common cause of empyema of the gall-bladder, gangrene of the gall-bladder walls, acute perforation of the viscus, cystic distension due to block of the cystic duct, or, if the hepatic or common duct should be similarly obstructed, the great distension of the gall-bladder will be accompanied by intermittent jaundice. Cystic distension, accompanied by permanent jaundice, will usually be found to be the result of cancer. This permanent jaundice is produced by the constant pressure on the duct. In 85 per cent. of all cases of cancer of the liver, the gall-bladder or biliary ducts, gall-stones are present.

Without obstructive symptoms, the presence of stones in the gall-bladder may be the cause of any degree of inflammation from a simple catarrhal condition up to the most virulent form of suppuration and necrosis. There is perhaps in all surgery no single exciting cause productive of more extensive and varied complications than the presence of gall-stones. Many and varied are the conditions, frequently of an exceedingly serious nature, which demand operative interference. The chapter on the evolution of the surgery of the biliary passages rivals