

ducts or the biliary passages of the liver, produces an obstruction to the discharge of the bile into the duodenum, or a gall-stone, or other agency impedes its passage; the blood then reabsorbs the accumulated bile, and the condition of obstructive jaundice appears. Now, recent researches in pathology have shown that there cannot be for any length of time an obstruction to the outlet of the bile into the intestinal canal, without there being set up important changes in the structure, which ultimately lead to loss of power by the liver to functionate. Modern researches have shown that the structure of the organ rapidly degenerates, the proper secreting cells undergo fatty change, then atrophy and disappear, and at the same time the connective tissue increases in quantity, both relatively and absolutely. This danger is imminent in all cases of liver disturbance, characterized by jaundice. It will, therefore, not do to be indifferent to any of the forms of jaundice, if they continue for any length of time. You will not be doing justice to your patient, if you pass it by as of little moment; the skilled practitioner will treat the case in time, and prevent this areolar hypertrophy and cell degeneration, which will, if neglected, go to such an extent that the organ will be prevented from performing its functions ever afterwards.

What has been the pathological condition here? The habits of life of this man and the chronic indigestion have led to duodenal catarrh. This was followed by swelling of the mucous lining of the bile-ducts, which is continuous with that of the intestinal surface. First, we have simple catarrhal condition of the bile passages, and jaundice (catarrhal jaundice); secondly, we have the mucous inflammation and swelling preventing the exit of the bile, and, hence, interference with the function of the liver. What is the effect? In the light of late investigations by Charcot and Legg, we know that this cannot continue for any length of time without the occurrence of organic change. His steady drinking, moreover, has favored contraction of the liver, which is demonstrated by physical examination; percussion shows that the liver is decidedly contracted, the area of dullness is reduced materially, and does not extend below the ribs.

Shall we conclude that our remedies will be unable to bring about a change? Can we do nothing for this cirrhotic liver? You remember that I told you the other day that nature has been bountiful in her gifts; that every individual is provided with more liver, more lung, more brain, than is necessary for his ordinary existence. This is well exemplified in the reproductive function. One testicle is sufficient for impregnation, as much so as two, or, indeed, a dozen for that matter.

This fact is equally true of the secreting structure of the liver; a considerable part of it may

be destroyed without fatally interfering with its functions. In this patient, if there be a sufficient quantity of healthy liver substance remaining to carry on the function of the organ, the interference of the morbid process being removed and its progress arrested, we may succeed in restoring the man to comparative health.

We will, therefore, treat this patient. The problem is to restore the production of bile, and secure the discharge into the intestinal canal. How shall we proceed? What will arrest this over-production of connective tissue, which is contracting upon the liver cells and causing their destruction? We have therapeutic agents that will do this. We may use the phosphates and phosphites, particularly the former, with a good prospect of success. The lacto-phosphate of lime and dilute phosphoric acid make a good combination. Indeed, the best, in view of its ready assimilation, is the phosphate of lime; but, on account of its insoluble character, the question is how to introduce it into the system. When freshly prepared, it is soluble in lactic acid. In this form it is readily absorbed, and promotes digestion and assimilation. Phosphorus, you know, exerts an elective action upon the connective tissue of the liver; for in phosphorus poisoning we find the hepatic connective tissue in the state of fatty degeneration and destructive change. The metals, also, are generally thrown out by this channel, and in poisoning by the metallic salts, such as copper or antimony, the substance may be detected in this organ. In medico-legal cases we always secure the liver, in order to examine it for poison. Arsenic particularly acts upon the hepatic structures, and after arsenical poisoning it may be detected in all the viscera, but is principally found in the liver. With this in view he shall have two drops of Fowler's solution three times a day, given after meals.

R. Syrup. calcii lacto-phosphatis..... ʒj

Liq. potassii arsenitis ℥j

S. Ter in die.

We employ the arsenic in order to act upon the nutrition of the liver, and for its specific effect upon the connective tissue.

A most important part of the treatment in hepatic disorders is careful regulation of the diet. Here is the problem. Given a damaged liver, what shall be the alimentation in order to secure digestion and assimilation? Evidently his diet should mainly consist of such articles of food as do not require bile for their assimilation. Now, shall we direct him to eat fatty, saccharine, or starchy articles? If we understand anything whatever about the action of the different secretions upon the function of digestion in the upper portion of the small intestine, we know that the bile emulsifies fats and favors their absorption, it also prevents fermentation in the starchy and saccharine elements. We must