

persistent fistula; it is positive on expiration and negative on inspiration in partial pneumothorax with open fistula; it is negative in both periods in general pneumothorax when there is no fistula or when this has been obliterated for a greater or less length of time.

SURGERY.

UNDER THE CHARGE OF

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Pancreatitis.—MAYO ROBSON (*British Medical Journal*, May 11, 1901) states that the essential and immediate cause of the various forms of pancreatitis is bacterial infection, this having been positively proved both clinically in the human subject and experimentally in the lower animals. External determining causes are biliary and pancreatic lithiasis, injury, gastro-duodenal catarrh, ulcer and cancer of the stomach, pylorus or duodenum, and zymotic diseases, such as typhoid fever and influenza, and, in some cases, pancreatitis has come on suddenly in persons of robust health, and the determining cause has been beyond recognition. Fat necrosis is commonly found in association with pancreatitis and other diseases of the pancreas, but it is not pathognomonic of disease of the pancreas. Hemorrhage into the pancreas not due to injury may occur, and there is an ill-understood relation between pancreatic disease and serious hemorrhage. Careful investigation has shown (1) that in certain diseases of the pancreas there is a general hemorrhagic tendency which is much intensified by the presence of jaundice; (2) that hemorrhage may apparently occur in the pancreas unassociated with inflammation or with jaundice, or with a general hemorrhagic tendency; (3) that both acute and chronic pancreatitis can and do frequently occur without hemorrhage; (4) that some cases of pancreatitis are associated with local hemorrhage. The treatment of acute infective pancreatitis is practically that of peritonitis, commencing in the superior abdominal region. The pain at the onset is so acute as to necessitate the administration of morphia for its relief, and collapse will demand stimulants, which, on account of the associated vomiting, may have to be given by enema. In the early stages the symptoms are usually so indefinite as not to warrant operation, and until the collapse has passed off no surgical procedure would generally be justifiable. The stimulation of intestinal obstruction will probably lead to efforts to secure a bowel movement, and so relieve the distention. An early evacuation of the septic matter is necessary for recovery, so an exploratory operation is demanded so as to evacuate the septic material and give free drainage. The after-treatment should be

directed to combating shock and keeping up the patient's strength. Even if pus is not found, the exploratory operation will do no harm. The incision is best made in the median line above the umbilicus, and should enable one to establish the diagnosis. The best incision for drainage is a free vertical incision in the left costo-vertebral angle. There is then no risk to the general peritoneal cavity, and drainage will be good, because it will be dependent. Subacute pancreatitis is more amenable to treatment—morphine for the pain, calomel as an intestinal antiseptic, and for the relief of the distention. As soon as the constipation is relieved, diarrhea is apt to supervene, and this should have its appropriate treatment. If surgical treatment be decided upon either the median incision above the umbilicus or the posterior incision in the left or right costo-vertebral angle should be employed. If a definite abscess forms and approaches the surface in front of or in either loin, the treatment will be incision and drainage, as in the case of any other abdominal abscess. The author reports five cases of subacute pancreatitis treated by operation, with the result of three recoveries and two deaths. Chronic pancreatitis must be treated by abdominal section and drainage, but in these cases the drainage should be indirect, and obtained by draining the gall-bladder by cholecystotomy, cholecystenterostomy, or duodeno-choledochotomy. The exact line of treatment cannot be determined until the abdomen is opened. When there are gallstones present they should be removed, unless the patient is too ill to permit of the complete operation; but in every case drainage must be secured, if possible, by cholecystotomy; and, moreover, the drainage must not be stopped before the bile has become healthy, and not before the greater amount of bile is being passed by the bowel, which will be certain to occur as soon as the swollen pancreas has subsided, if the duct be otherwise clear of obstruction. The simulation of malignant disease of the head of the pancreas by chronic interstitial pancreatitis would make the author hesitate to decline operation in any case of distended gall-bladder where the patient is in a condition to bear it, or even in any case of chronic jaundice without distention of the gall-bladder where the general health is deteriorating, as though it should be recognized that if the disease be really malignant very little good will be done, and life may even be shortened or only prolonged for a short time, yet if the disease prove to be chronic pancreatitis a real and permanent cure may be brought about. The results of treatment in this class of cases have been most encouraging, as out of twenty-two cases operated on only one died directly from the operation, and in that case the patient's life was only very slightly shortened, since he was reduced to the last stage of exhaustion before the operation was performed. Of those recovering from the operation, with the exception of two that died a few months later, complete and permanent recovery ensued. These results contrast very markedly with the surgical treatment of cancer of the pancreas, where nearly half the cases operated on have died directly as the result of operation, and in those who have survived life has only been prolonged for a comparatively short time.

The Operative Treatment of Cirrhosis of the Liver.—FRAZIER (*Annals of Surgery*, June, 1901) reports the case of a man with marked cirrhosis of the liver who had been repeatedly tapped and whose condition seemed very