DISEASES OF THE PANCREAS.

In discussing the present position of our knowledge of diseases of the pancreas, Mr. Moynihan draws attention to the results of experimental work on that organ. Thus it has been shown that total extirpation of the pancreas causes all the symptoms of diabetes in addition to digestive disturbances. If only part of the gland be removed diabetes does not occur. Subcutaneous grafting of a portion of the pancreas, if the graft survives, will prevent the symptoms of diabetes even if no portion of pancreas be left in the abdomen, but on removing the graft in such a case glycosuria develops.

Ligation of the duct of the pancreas does not cause the duct behind the ligature to dilate, neither does it cause diabetes, although it gives rise to chronic interstitial inflammation in the gland. The explanation of diabetic manifestations occurring under certain pathological conditions affecting the pancreas, and not under others, is that the interlobular groups of cells alone, known as the islands of Langerhaus, are those that control metabolism by means of an internal secretion, and that it is necessary for these cells to be rendered functionless before pancreatic diabetes can occur. In the pancreatitis which follows ligation of the duct these islands of Langerhans for the most part escape, and therefore glycosuria is not brought about.

The symptoms of pancreatic disease Mr. Moynihan places under six heads, namely, glycosuria, hemorrhage, fat necrosis, altered character of the stools, alteration in the constituents of the urine, and wasting. Taking these in order: Glycosuria, as mentioned above, is almost certainly due to alteration in the islands of Langerhans. Hemorrhage may occur with acute, subacute, or chronic inflammation, although any of these forms may occur without any evidence of local bleeding. Experiments have shown that hemorrhage may be brought about by the injection into the duct of Wirsung of the bacillus diphtheriae, or of the bacillus pyocyanes. In certain diseases of the pancreas there may be a general hemorrhagic tendency, which is much increased by the presence of jaundice. In the process of fat-necrosis the fat is split up into fatty acids and glycerine, the latter of which is absorbed; and one theory which has been put forward to explain the occurrence of hemorrhage in pancreatis is that it is due to the absorption of the glycerine.

The fat-necrosis or saponification is attributed to the escape of the fat-splitting ferment of the pancreatic juice, and it has been shown in cats that by causing the whole of the secretion of the pancreas to penetrate into the surrounding tissues, saponification results, not only in the abdominal fat, but in the fat of the pericardium and subcutaneous tissue as well.

Absence of the pancreatic secretion from the intestinal results in the passage of clay-coloured stools. In this connection it has been demonstrated that the colour of the feces in health is due, not to the bile-pigments which are absorbable, but to an insoluble pigment which is formed by the action of the pancreatic juice upon some of the colouring matters of the bile. A deficiency either of the bile or of the pancreatic juice will therefore cause the feces to be unpigmented. It is well to remember that the pancreas has two ducts, the duct of Wirsung and the duct of Santorini, and that both must be blocked, or the gland so altered that it ceases to secrete, if the above symptom is to occur. The presence of undigested muscle fibre in excess, and also of fat, is found in the stools where there is an absence or deficiency of pancreatic secretion. The main alteration to be found in the urine is a reduction of the ethereal sulphates.

With regard to the wasting, in Mr. Moynihan's experience the rapidity with which the body-weight declines in cases of pancreatic disease can only be matched in malignant disease. This is only to be expected, seeing that the pancreas is so important in the process of digestion.

After dealing with pancreatic cysts, the best treatment for which he believes as a rule to consist of evacuation and drainage, Mr. Moynihan passes on to a consideration of pancreatic calculi. The stones are generally white or of light colour, may be single or multiple, and are found in all parts of the duct, but much the most frequently in the head. The symptoms have not been thoroughly worked out up to the present. There is usually pain in the upper part of the abdomen, and it frequently resembles that due to gall-stones. When the pain is at its height, vomiting, hicough, rigors, cold sweats, or collapse may be noticed. Diabetes has often occurred. Hauserman, in 72 cases of diabetes associated with pancreatic disturbance, found that stone was present in 12. Osler, in 70 cases of calculus, observed that diabetes was recorded 24 times. Other symptoms are marked bodily wasting and diarrhoea, while jaundice may be caused by pressure upon the common duct. Whether the stones form as a result of inflammation, or whether the pancreatitis is set up by the calculus is debatable point.

Pancreatitis may be classified as acute, subacute, and chronic. The acute form may result in local or general hemorrhage, in necrosis of the gland, or in suppuration. Clinically the symptoms resemble those of acute peritonitis in the epigastric region. The onset is abrupt and the process rapid. The illness commences with sudden acute pain in the abdomen, followed by collapse and vomiting. The pulse is rapid and thin, and the temperature slightly elevated. There is no intestinal obstruction. Jaundice is often observed and is due to inflammation of the common bile duct. The illness commonly occurs in middle-aged men, and there is often a history of gall-stone trouble, or indigestion, or alcoholic indulgence.

In the most acute cases death occurs in from three to five days. If the diagnosis be made, probably the best treatment is laparotomy and drainage of the pancreatic region, preferably from behind.

Chronic pancreatitis is due to infection extending up from the intestinal canal or from the bile passages, or to pancreatic calculi or to malignant disease, either primary in the gland itself, or spreading to it from a neighbouring structure. It is also said that certain poisons circulating in the blood may set up chronic
inflammation, for example, alcohol and the toxins of tuberculosis, and syphilis. Cholelithiasis is the most important and frequent of all these causes. Associated with gall-stone disease all stages of chronic pancreatitis are met with, but most commonly the head of the pancreas is the part most affected. In such case the head of the gland will be found thickened and harder than normal. The treatment of chronic pancreatitis consists of the performance of a cholecystostomy with prolonged drainage of the gall bladder and bile ducts.

1 Practitioner, Aug., 1903.

INTRA-UTERINE AMPUTATIONS.

In spite of the attention which has been given of recent years to the diseases and deformities of the fetus, it is somewhat curious that so much uncertainty exists regarding the circumstances which every now and then cause a child to be born minus one or more digits, or the distal part of a limb. It is generally allowed that something of the nature of an amputation has taken place, and indeed the appearance of the stump usually suggests this, but the mechanism by which the amputation is effected is largely a matter of conjecture. Allied to the cases in which there is an actual loss of a member are others in which a groove or constriction is cut more or less deeply into the soft tissues of a limb. It is reasonable to suppose that these are instances of incomplete amputation, and this suggestion is supported by the fact that occasionally, with loss of one member, such a constriction is found on one or other of the remaining limbs. Hence it is in the highest degree probable that both amputations and constrictions result from the action of corresponding agents. The theory that these agents are extra-fetal bands, arising perhaps from inflammatory adhesions between the cutis and the amnion in an early stage of development, is sometimes opposed on the ground that such adhesions occur in cases where no evidence of the existence of these adhesions can be detected. But it must be remembered that these formations, if they occur, are produced at a very early stage, and that there is therefore abundant opportunity for their removal by absorption. The same consideration helps to explain a failure to find the separated digit or limb. Further, there is positive evidence in the occasional discovery of partially separated digits actually surrounded or grasped by bands of lowly organised tissue. A further question which arises for discussion is whether the umbilical cord can possibly act as a constricting or amputating agent. It is certain that the cord is sometimes found in constrictions round the limbs. This is so far primâ facie evidence. But it is objected that the cord is too soft a structure to cut through the tissues, and that it may readily slip into grooves formed by some other agency. It must, however, be remembered that in early cases the limbs cannot offer anything like firm resistance, and that a continuous strangulation even by a soft ligature may be sufficient to compress the blood-vessels and even to divide the tissues. The balance of evidence seems decidedly to support the view that extra-fetal bands, including the umbilical cord, are responsible for the occurrence of intra-uterine amputations and constrictions.

THE CURE OF HERNIA.

In an address delivered recently before the South-West London Medical Society, at the Bolingbroke Hospital, Sir Victor Horsley discussed the present methods of dealing with inguinal and femoral hernia. The troubles which a rupture gave rise to, he said, might be classed under the two heads of discomfort and danger. The former of these was amply sufficient to justify operative methods. He contended that to apply a truss was not to treat the hernia, as it was only in the case of congenital hernia that a cure would be effected by this means. On the other hand a surgical operation offered such a good chance of permanent relief that it was called for in nearly every case; that, in fact, it was the only efficient and correct treatment unless some special contra-indication was present such as old age or debility. The dangers of surgical interference consisted of the risks of the anesthesia and the risks of sepsis. Both of these he considered to be negligible in practice, and he thought it was justifiable in the case of a nervous subject to say that there was no danger at all. No fatality had occurred among the large number of such operations performed by his colleagues and himself during the last five years at University College Hospital. Sir Victor Horsley referred to the great difficulties that were in the way of ascertaining the ultimate results of surgical operations, and he thought it would be an excellent thing if an association were started with the object of finding out and recording after results. He was of opinion himself that there would be no recurrence of hernia if the operation were performed aright, but that faulty technique was responsible for a recrudescence of the trouble when such did occur. In inguinal hernia the operation which was most likely to lead to a permanent cure included a displacement of the lowest portion of the obliquus internus so as to fill up the weak spot in the abdominal wall with a layer of muscular tissue, as this was not liable to stretch and give way under pressure from the abdominal viscera. If there were an undescended testicle associated with the hernia, Sir Victor Horsley did not think it was right treatment to remove the testicle. He had yet to meet the case where it was impossible to place the testicle in the scrotum. With regard to femoral hernia he pointed out that the femoral canal in an adult is from 1 to 1½ inches long, and in a short but very interesting historical review of the various operations which have been from time to time devised for the cure of the rupture he demonstrated that the earliest procedures were limited to closing the lower end of the canal and that subsequently there had been a constant tendency with each new operation invented to attack a still higher portion of the canal with a view to its occlusion, but so far no procedure had been introduced which satisfactorily closed the very mouth of the canal. He went on to describe an operation which he had devised for satisfactorily attaining this end. The method was as follows:—An incision was made above and parallel to Poupart's ligament. The obliquus externus was divided along this incision, and then without further cutting, by retracting upwards the arching fibres of the transversalis and internal oblique the upper opening of the femoral canal was brought into view. The hernial sac was then emptied, its neck ligatured, and the sac was