In cases of pain, which for want of other explanation must be termed "rheumatic," the results of ionic medication are most gratifying. A solution of sodium salicylate connected by an electrode with the negative pole is applied to the part affected, while a solution of common salt is used at the indifferent electrode in connexion with the positive pole.

A young engineer engaged in work involving exposure to cold and damp came to me in March, 1921, with "rheumatism" in both feet. He had suffered much for several years, and could walk only with difficulty and pain. The knees and the finger-joints were also affected. After a somewhat prolonged course of ionization with sodium salicylate he made a complete recovery, and was able to walk easily and without discomfort. His swollen finger-joints became normal, and this enabled him to resume piano playing, from which he had previously been debarred.

Ionization with copper metal to the interior of the uterus gives satisfactory results in cases of endometritis and menorrhagia. The whole uterine mucous membrane is dealt with and no anaesthetic is required. The operation is of the simplest character. A patient of Dr. Alexander Thomson, suffering from a dilated meatus urinarius following childbirth, with inability to retain urine on any movement, was completely cured by the introduction of a copper probe through which a very gentle continuous current of from 3 to 5 milliampères was passed for five minutes at a time. The useful effect of zinc ionization in cases of carbuncles and boils is also well known.

It is with every confidence that I venture to encourage practitioners to test ionic medication as a simple and effective therapeutic agent in cases such as are here described.

A CASE OF CHOLECYSTGASTROSTOMY.

BY

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The following case presents features of interest and seems worthy of record:

A married woman, aged 45, complained of ill health of seven years' duration. She suffered from attacks of abdominal discomfort half an hour after meals; they were never very severe, and she rarely vomited; she had had no melaena or haematemesis so far as she was aware. At intervals of a few weeks she had had attacks of nausea and diarrhoea. During the previous two months she had been worse and was losing weight. She was pasty-faced and sallow, but not jaundiced. The temperature and pulse were normal, as was the urine. Nothing of note was found on examination of the chest or rectum. There was a small, firm, rather fixed swelling just above and to the right of the umbilicus. The spleen was readily palpable an inch below the costal margin. The liver was not enlarged, nor the stomach dilated. A blood count showed merely slight secondary anaemia, and a barium skiagram gave no evidence of ulcer or pyloric stenosis.

Operation.

The abdomen was opened above the umbilicus. The swelling proved to be a hard nodular mass in the head of the pancreas. The liver, gall bladder, and ducts were normal to sight and touch. The splenic vein was dilated, and ran directly into the pancreatic mass, and the splenic enlargement was clearly due to venous engorgement. The diagnosis between chronic pancreatitis and carcinoma was uncertain. On the assumption that the swelling was probably inflammatory, some form of drainage of the biliary passages seemed indicated, and by cholecystenterostomy rather than cholecystostomy. In view of the great induration of the pancreas and enlargement of the spleen it seemed doubtful whether a few weeks' drainage would suffice.

Cholecystenterostomy, then, was decided upon in the hope that it would prove curative if the swelling were inflammatory. If it were malignant it would serve to prevent jaundice from the inevitable and early obstruction of the common duct. The pancreatic mass so overlapped and fixed the duodenum that no amount of mobilization would render it available. My experience has been that the use of the colon is preferable to that of the jejunum, and arrangements for cholecystocolostomy were being made when it was noticed the relation of the gall bladder to the stomach was such that an anastomosis could readily be made without disturbing their relations. This was done by simple suture in two layers and the abdomen closed. Recovery was uninterrupted.

Four months later the patient expresses herself as being completely relieved of her symptoms and having "never felt better in her life." The pancreatic mass was just appreciable to palpation, although distinctly smaller, and the spleen could still be felt.

Operations with the object of short-circuiting the common bile duct date from 1830, when von Winiwarter of Liège, at the suggestion of Nussbaum, performed the first. He used the colon and operated in six stages, lasting from July 20th, 1830, until November 14th, 1831. The first operation in this country was performed by Mayo Robson in one stage in 1889. The use of the duodenum was suggested by Cozi, and the first operations were those of Terrier and Bardenheuer. No doubt physiologically the best site for the junction is the duodenum, but as a matter of practical surgery it is not always available.

The objection to the use of the jejunum is that regurgitant vomiting, such as used to follow gastro-enterostomy with a "loop," is not unknown. This may be partially guarded against by the plan recommended by Mickulicz of performing a lateral anastomosis between the two limbs of the jejunal loop, but probably the best method is to make a retrocolic junction. An opening is made in the transverse mesocolon and the jejunum pulled through it. The operation is completed by drawing the junction down and suturing it to the edges of the aperture in the mesocolon, just as in posterior gastrojejunostomy. To the use of the colon there is the objection that there is an appreciable risk of suppurative cholangitis. In practice, however, this does not often occur, and the anatomical suitability of the colon has caused its frequent use with generally satisfactory results.

Attention seems to have first been drawn to the possibilities of the use of the stomach for this purpose by Oddi¹ in 1887. He experimented on dogs, and found that the diversion of the bile into the stomach was quite consistent with perfect health. His observations were confirmed by Cannac, Masse, Mocquot and others.

The first operation on the human subject was performed in Vienna on September 21st, 1892, by Wickhoff and Angelberger² in a case of gall stones and stricture of the common duct. The patient recovered. They were followed by Terrier³ on December 19th, 1895, in a case of carcinoma of the head of the pancreas. The patient survived ten months. Monod⁴ did a similar operation on June 1st, 1896, but the patient died the next day. Jaboulay⁵ recommended it as the operation of choice in tumours of the head of the pancreas. About this time cases were also published by Montagnon and Duchamp,⁶ and by Krumm,⁷ while Perrin⁸ in 1902 collected fourteen cases, including the foregoing, with generally satisfactory results. Kehr⁹ has several times strongly advocated the operation, and had, in 1914, performed it sixty-two times, but gives no results.

Cases in the literature since 1914 are naturally scarce, but the subject has been referred to in America by Barr,¹⁰ Jacobson,¹¹ and Erdmann.¹² The latter quotes Moynihan as having operated in this way twenty-one times with one death, and as having seen no disability from the presence of bile in the stomach. Moynihan advocates operation in all cases of obstructive jaundice, however positive may be the evidence of malignancy. The diagnosis is often difficult and never certain.

To sum up, it may be said that, while short-circuiting operations of this type will rarely be performed to-day—as were many of the earlier ones—for stones impacted in the common duct, indications will still be found, especially in cases of pancreatic disease. It is submitted that when the indication arises the use of the stomach for the anastomosis makes the operation technically easy, physiologically sound, and unlikely to be followed by undesirable complications.

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- ⁴ Monod: *Ibid.*, xxii, 546.
- ⁵ Jaboulay: *Lyon Méd.*, lxxxix, 365.
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- ⁷ Krumm: *Muench. med. Woch.*, xlviii, 826.
- ⁸ Perrin: *Thèse de Lyon*, p. 1-9.
- ⁹ Kehr: *Technik der Gallensteinoperationen, Ergebnisse der Chir. Orthopaed.*, 1914, vol. viii.
- ¹⁰ Barr: *Journ. Tenn. Med. Assoc.*, 1914-15, vii, 454.
- ¹¹ Jacobson: *Journ. Amer. Assoc. Obstet. and Gyn.*, 1914-15, xxvii, 172; *Amer. Journ. Obstet.*, 1914, lxx, 825.
- ¹² Erdmann: *Annals of Surgery*, 1918, lxxvii, 273 and 363.

THE Japanese Home Office is about to investigate the death rate of infants in Tokyo, basing itself on the police statistics of the deaths of infants under the age of 5 years and their causes from 1916-20. It is believed that in the poor quarters of Tokyo the infantile death rate reaches 37 per cent. of births.