

may continue for as long as a fortnight before the next phase becomes manifest. The discharge now becomes progressively more mucoid, and gradually diminishes in amount until the ear is only moist. The argyrol is then omitted and the ear simply cleaned out daily, dried with spirit, and a little boric powder insufflated.

Results of Treatment

The following is an analysis of the results achieved in a series of 116 cases:

Cases cured	72 (62.07 %)
Cases not improved	37
Cases not completing treatment for various reasons	7
Cases readmitted for treatment	2

Without an adequate control series it is of course unscientific to claim any particular virtue for a method, but one feels it must be agreed that a 62.07 per cent. cure rate justifies the use of argyrol displacement, especially as it is a simple procedure which can quite well be carried out at clinics treating large numbers of cases. As the number of attendances is a factor of importance in the organization of such clinics, it should be emphasized that although the treatment must be repeated daily and no breach of continuity be allowed to occur the total period of treatment need not be a long one. In this series the average number of treatments necessary to achieve a dry ear was only twelve, although quite wide variations were noted, the least number required being three and the greatest thirty-six. Of the thirty-seven failures recorded a few were cured by ionization; but the majority came to operation, and can therefore hardly be regarded as a reflection on the method here described as a non-operative treatment.

The eradication of nasopharyngeal infection is essential in any attack, operative or non-operative, on the discharging ear, and that measure was of course not omitted in the cases in this series. Nevertheless the value of this method as a means of permanent cure of otorrhoea is not established here. But such criticisms may be levelled with equal weight against any other conservative procedure—the arrest of discharge for a reasonable length of time being accepted as the criterion of success.

Conclusion

It might be well to conclude this article by emphasizing the fact that the treatment here advocated can be quite satisfactorily carried out by a nurse trained in the technique, and at the same time I take the opportunity of acknowledging the efficient work of the staff who treated the cases in the above series under my supervision. Thanks are also due to Dr. C. Price, medical superintendent of the hospital, for his helpful interest in the work.

Genoscolamine.—Genoscolamine is an aminoxide of the alkaloid scopolamine in the form of the hydrobromide, and was first produced by Polonovski in 1925. According to the authors it is a useful substitute for scopolamine, atropine, or stramonium in the treatment of Parkinsonism. In the twenty-two cases treated it had a beneficial effect, especially upon rigidity, tremor, muscular weakness, salivation, and upon the oculogyric crises. Its toxicity is low, and it is especially effective when used in conjunction with small doses of atropine.—Genoscolamine: Its Use in Parkinsonism. J. H. Scharf and S. T. Manong.—*J. nerv. ment. Dis.*, May, 1939, **89**, 682.

ACUTE TORSION OF THE GALL-BLADDER

BY

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Torsion or axial rotation of the gall-bladder cannot occur in a normally situated organ. In the vast majority of cases the gall-bladder lies in a shallow fossa on the under surface of the liver, and only its fundus and posterior surface are covered by peritoneum. In its development the gall-bladder is intimately associated with the liver. The liver is formed as a diverticulum from the ventral surface of the foregut. This diverticulum grows forwards into the septum transversum and gives off solid buds which form the right and left lobes of the liver. The original diverticulum from the foregut forms the bile duct, and from this the cystic duct and gall-bladder are developed as an outgrowth or evagination. This outgrowth is normally of such a length that only its distal end (the fundus) comes to lie below the level of the anterior border of the liver. In very exceptional cases, however, it is so elongated that the whole of the ultimate gall-bladder lies below the anterior border of the liver, and the fossa for the gall-bladder is occupied by the lengthened cystic duct. In these circumstances the gall-bladder is completely invested with peritoneum and hangs freely in the abdomen, and unless this very rare anatomical abnormality is present true torsion cannot occur.

In certain cases the peritoneal relations are such that the gall-bladder is attached to the liver by a double fold of peritoneum which forms a mesentery. No doubt this will allow of considerable movement of the gall-bladder, but no complete axial rotation can take place. With regard to torsion, the peritoneal arrangements are of little significance compared with the all-important relation of the gall-bladder and cystic duct to the liver. While abnormalities of the bile ducts have been carefully studied, very few statistics appear to have been published on anomalies of the gall-bladder. Brewer (1899) states that in 100 dissections of the gall-bladder and biliary ducts he found five cases in which the gall-bladder was attached to the liver by only a double fold of peritoneum, but no record is given of any case where the gall-bladder was attached to the liver merely by the pedicle of the cystic duct and vessels. The latter condition must be extremely rare, and torsion in these circumstances becomes such a simple matter that one would infer that it must almost inevitably occur. The mechanism producing it would appear to be the movements of the gastro-intestinal tract. Such a theory appears to offer an explanation of the following case of acute torsion.

Case Report

The patient, a warehouseman aged 46, was admitted to Boundary Park Hospital, Oldham, on Monday, January 23, 1939. On the previous day, just before his dinner at 2 p.m., he was seized with a very severe abdominal pain which was in the right upper abdomen; it "doubled him up" and he felt "as though he had been kicked in the stomach." He had had his breakfast at about 8.30 a.m., and until the onset of the sudden severe pain he had felt perfectly well. He was in fact looking forward to his Sunday dinner, and said he felt he could have eaten two; but through the onset of the pain he was unable to eat anything. The pain continued all day, and at 11 p.m. he vomited. During the night he could not sleep and in the morning vomiting became persistent.

At about 11 a.m. he was seen by his doctor, who sent him to hospital. I saw him immediately after his admission.

He was a well-developed man of spare build; he suffered from chronic bronchitis, but otherwise had had no previous illnesses of any significance. His abdomen was scaphoid and very rigid, with considerable tenderness in the right hypochondrium and epigastrium. No mass was palpable; his temperature was 99°, pulse 112, and respirations 24. A diagnosis of perforated peptic ulcer was made and immediate operation decided upon.

The abdomen was opened through a right upper paramedian incision, and on going through the peritoneum a deep blue-black tensely distended structure literally popped through the wound. It was about the size and shape of an orange, and was seen to be an abnormally situated gall-bladder which had twisted through 360 degrees in a clockwise direction. Its blood supply was cut off and it was becoming gangrenous. The whole of the gall-bladder was completely covered with peritoneum and was suspended from the anterior border of the liver by the cystic duct and vessels. The cystic duct, which was much longer than usual, continued its course superficially embedded in the liver in what is normally the fossa for the gall-bladder. There was a considerable amount of blood-stained fluid in the upper abdomen. The gall-bladder was removed by placing a ligature around the cystic duct and vessels at the level of the anterior edge of the liver. It was an extremely simple operation; no easier cholecystectomy could ever be performed. A small drain was placed in the upper abdomen through a separate stab incision. On examination afterwards the gall-bladder was found to be full of blood-stained bile; there were no stones, and the wall was not thickened except by oedema. Until the torsion had occurred the gall-bladder had apparently been physiologically normal. The patient made a good recovery; his bronchitis troubled him somewhat, but he was discharged on February 28.

Commentary

Several points about this case call for comment. With regard to the diagnosis one had no hesitation in believing it to be a perforation. The persistent vomiting was against this diagnosis, but the extreme rigidity and tenderness appeared to leave no room for doubt. It seemed probable that a small leak had occurred on the previous day and had later recurred on a larger scale. But apart from the precise diagnosis, the clinical picture could not be interpreted as anything but an "acute abdomen" requiring immediate surgical intervention. The fatal mistake of regarding it as a severe case of cholecystitis and biliary colic appeared impossible.

The sequence of events in the history seems to provide an explanation of the mechanism of the torsion. It occurred immediately before the patient's Sunday dinner, when waves of peristalsis in the fasting stomach would be at their maximum. These waves passing down the stomach from left to right would tend to rotate the full gall-bladder in a clockwise direction; and once a protective spasm of the recti had been called into play this muscular contraction would tend to keep up the torsion rather than to undo it. Lastly, the treatment of the condition is extremely simple and effective.

Most of the cases hitherto recorded have been in elderly women, and according to Short and Paul there have been only six cases recorded in males. The first account of the condition was published by Wendel in America in 1898. In describing his case Wendel commented on the anomalous length of the cystic duct, which permitted the extreme mobility and migration of the gall-bladder; and in performing cholecystectomy he divided the cystic duct at the anterior border of the liver. In more recent years cases have been reported in this country by Lett (1909), Frankau (1922), and Irwin (1921), while Short and Paul

in 1934 added three others and gave a comprehensive account of the subject together with a summary of all previous cases.

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Clinical Memoranda

Treatment of Foetal Hydrocephalus

(WITH SPECIAL PLATE)

Foetal hydrocephalus may be a source of considerable difficulty during delivery. The usual methods of treatment are through the vagina—for example, puncture of the skull or tapping the spinal canal: these may be difficult to perform, and since the patient is in labour and the lower uterine segment is already considerably stretched and attenuated, vaginal manipulation may be the factor causing rupture of the uterus. It has been suggested by Walsh that these disadvantages may be overcome by transparietal aspiration of the foetal skull. The following is an account of a case treated by this method.

A primigravida aged 23 was admitted to hospital on February 24, 1939. The head was not fixed, and x-ray examination showed foetal hydrocephalus (Plate, Fig. 1). On the same date 14 ounces of cerebrospinal fluid were withdrawn from the skull. Fig. 2 shows the skull after aspiration. Labour began on February 25, and spontaneous delivery took place on the 27th, after thirty-eight hours in labour. The child weighed 5 lb. 8 oz. The patient made a good recovery and was discharged on March 13.

The technique of aspiration is simple. The skin of the abdomen being prepared and the bladder emptied by catheter, the skin is anaesthetized by injection of 1 per cent. novotox in the midline just above the symphysis pubis. The foetal head is fixed with one hand on the abdomen, and a long intramuscular needle attached to a 10-c.cm. syringe is inserted through the anaesthetized area of skin into the skull. Aspiration is repeated till no more cerebrospinal fluid can be withdrawn.

The possible disadvantages of the method are injury to the bladder or puncture of a loop of bowel, which, rarely, may lie in front of the uterus. The advantages are the ease of performance, the absence of shock, and the lessened risks of sepsis and perforation of the uterus.

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Fracture-Dislocation of Cervical Spine

(WITH SPECIAL PLATE)

The following unusual case is probably worth being placed on record.

CASE REPORT

In July, 1938, a very miserable Egyptian peasant woman, about 30 years of age, came to this hospital with a two-months history of having fallen from a height of nine or ten feet, with resulting injury to the neck. A diagnosis of fracture-dislocation of the cervical spine was made. No paralysis of limbs or trunk was found, reflexes were normal, and respiration appeared normal also. A lateral radiograph (Plate, Fig. 1) showed a surprising state of affairs: there was