Analysis of the fluid gave the following main facts: specific gravity 1.013; faintly alkaline; total solids 9.58 per cent.—ash 0.9 per cent. (sodium chloride, trace of potash and phosphates), fat 4.05 per cent., protein 3.50 per cent. (almost wholly serum globulin and albumin); there were traces of blood cells, with an excess of mononuclear types; no organisms were found. This is within the limits of composition of pure chyle. The fat was in a very finely divided state, a many times finer emulsion than cow's milk.

Subsequent Progress.—The boy left for home on the sixteenth day, a detailed diet having been prescribed, largely, but not wholly, fat-free. He was a most depressing sight—pinched face, splayed-out ribs over a flaccid, rather scaphoid, abdomen, and match-like legs. Five weeks later (May 22nd, 1928) the change in the child surprised me, and I regretted not having taken the weight (now 4 st. 3½ lb.) and the waist measurement (now 26 in.) previously. The thorax and abdomen were within normal limits of shape, a moderate layer of subcutaneous fat had appeared, and the boy was now of lively disposition. The clinical signs of cyst or fluid were doubtfully obtainable.

Nine weeks later (July 28th, 1928) the weight was 4 st. 5½ lb. and the waist 26½ in. There seemed now to be definite evidence of a flaccid cyst in the abdomen, and I should think that the fluid is collecting again very slowly.

In discussing the probable origin of the cyst I must express my great indebtedness to Dr. G. Payling Wright of University College Hospital for references to the literature and many suggestions of practical value.

The cyst may be classed broadly as mesenteric, and may, therefore, be primarily chylous, or due to an effusion of chyle into a preformed cyst. C. N. Dowd¹ reviews the subject, and is of opinion that the latter view is correct. If this is so, "false" cysts—inflammatory, parasitic, neoplastic, and dermoid—can hardly be applicable to this case, leaving traumatic and "true" mesenteric cysts only to be discussed.

Of the "true" cysts those suspected to be of urogenital (Wolffian) or enteric origin are lined with epithelium (sometimes very flattened), and although this has been described, the present cyst was so thin-walled, and under such low tension, that there can be little doubt that the wall consisted solely of endothelium and the barest supporting framework of areolar and fibrous tissue. Therefore, it would approach the lymphatic cyst (comparable to a cystic hygroma, which it did not in the least resemble), or a mesocolic cyst (formed of layers of mesentery which failed to fuse after the rotation of the gut in the embryo). Theoretically the superficial position of the cyst, lying against the small gut anterior to the mesenteric vessels, fits in with the mesocolic theory, but I have found no definite evidence that such cysts ever occur.

A traumatic cyst should be associated with adhesions, which were not found. Such cysts are said to occur after a blow on the spine, causing rupture of the receptaculum chyli or thoracic duct. A novel suggestion may be of interest in this connexion—namely, that the condition was one of retroperitoneal effusion of chyle held up by the more firm attachments of the peritoneum to the diaphragmatic, pelvic, and transversalis fascias than to the lumbar and perinephric fascias. However, I have not been able to confirm that these attachments are more firm.

There remains the view that the condition might be primarily chylous—that is, a cystic dilatation of a chylous lymphatic duct, due to obstruction possibly from traumatic or tuberculous fibrosis. This, a simple view at first sight, presents the difficulty that there is such a free anastomosis between ducts; even the entrance to the receptaculum chyli is usually by two or three channels. Had a cure been obtained, the only reasonable explanation would have been that a partial valvular obstruction in a duct had been overcome by complete relief of tension, but a cure now seems a doubtful possibility.

One can therefore only consider three likely explanations: (1) effusion into a preformed mesocolic cyst; (2) a true obstructive cystic dilatation; (3) a retroperitoneal effusion. In view of the very extensive nature of the cyst the last view cannot be put aside lightly. Finally, as the condition may require further surgical intervention, suggestions as to procedure and investigation at the time would be of considerable value.

I am indebted to the kindness of Dr. Arthur Humard for permission to publish this case.

REFERENCE.

¹ *Annals of Surgery*, 1900, vol. 32, p. 515.

ELECTROTHERAPY IN NON-GONOCOCCAL CERVICITIS.

BY

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By means of the electrical treatment detailed below it is usually possible to clear up cases of discharge from the cervix and urethra where douches and other means have failed.

In hospital practice diathermy is applied to the cervix and urethra as a routine for the first four sessions, Dr. Cumberbatch's special technique being employed. This kills any gonococci which may remain and stimulates internal secretions to combat toxins, but is not essential in non-gonococcal cases. During the next six sessions a well-lubricated zinc or copper electrode an inch and a half long by three-sixteenths of an inch in diameter (at the end of which is placed a circular disc to insulate the parts round the introitus urethrae) is introduced into the urethra; an indifferent pad electrode, eight inches by six, and half an inch thick, soaked in salt solution, being placed over the lower abdomen. The urethral electrode being steadied by a suitable stand the cables are connected to the electrodes and the galvanic current slowly turned on till a strength of 5 to 7 ma. is reached. The positive pole is always connected to the urethral electrode, and after twenty minutes' treatment the galvanic current is slowly turned off. More than 5 ma. should not be used at first as the patient may complain afterwards of pain on micturition.

When treatment of the urethra has been completed a speculum is introduced into the vagina till the cervix is clearly seen, and an electrode of the same shape and material, but a foot in length, is passed down the speculum and introduced gently about three-quarters of an inch into the cervix; if endometritis is present it may pass an inch or more. A piece of rubber tubing is slipped over the electrode as far as the cervix, thus preventing any short-circuiting with the speculum or possible burn of the vagina. The indifferent electrode being in position as before, the negative cable is attached to the electrode passing to the cervix and a current of 15 to 25 ma. passed for twenty minutes. This not only causes copious secretion from the cervical mucous membrane and draining away of pathological products, but has a caustic action as well.

At the last two sessions, by which time the discharge has become less or nearly ceased, the positive cable is applied to the electrode in the cervix, and the current turned on till 40 ma. is slowly reached. This current is passed for twenty minutes and slowly turned off. The result is to dry up the cervical secretion, and at the same time (according to type of electrode used) introduce into the cervix zinc or copper ions, both of which are strongly antiseptic. The average number of treatments necessary is about a dozen, but this will depend on the amount of cervical and urethral inflammation and induration, which within limits vary with the duration of the discharge. This brings out the importance of early treatment, which makes for a good prognosis. In every such case it is essential to treat the urethra.

I will illustrate the results of treatment by giving two typical cases.

CASE I:

A woman, aged 21, complained of discharge and frequency of micturition (the date of onset was not stated). Treatment was begun at the Royal Northern Hospital on September 13th, 1926. On examination the cervix was seen to be congested and indurated, maculae were present on the vulva, and pus exuded from the cervix. A smear showed no gonococci. Only slight improvement followed treatment with silver nitrate douches. She was sent to my department on November 15th, 1926. The urethra was swollen, the cervix red and swollen, and thick pus was obtained from both. Three treatments by diathermy caused the cervix to become less red and swollen. Ionization was performed weekly till December 26th (eight treatments), when no pus was to be seen in either cervix or urethra. The patient reported in a fortnight and again in a month, and at the last examination some chronic thickening of the cervix was found, with rather excessive clear mucous discharge, from which the patient had no discomfort whatever. No pus was found, and cultures from the cervix were negative.

CASE II.

A married woman was treated for cervical discharge six years previous to September, 1926, when she came to the Royal Northern Hospital complaining of burning pain in vulva and vagina; she had noticed no discharge. A smear taken showed no gonococci. After douches had failed to benefit the patient she was sent to my department on November 1st, 1926. I found the cervix red and swollen, with pus round the os and on the vaginal walls. On November 15th a small erosion was seen. Eight treatments by diathermy cleared up the erosion and the pus became less thick, though there was now some to be seen in the urethra. After four treatments by ionization no pus was seen in the urethra and the cervix was much less red and swollen. After eight treatments there was complete cessation of discharge and the cervix appeared normal.

The patient reported a month later that she felt quite well; the cervix and urethra both appeared quite normal; no chronic thickening was seen.

I could only treat these cases once a week, but twice a week would be more efficient and would lessen the number of sessions required. I hope these notes may be of service to those in general practice who use a galvanic apparatus.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

PSEUDOCYST OF THE PANCREAS.

PSEUDOCYSTS of the pancreas are undoubtedly rare. The following clinical details of a case therefore seem worthy of record.

A boy, aged 7 years, had the upper part of his abdomen crushed by a cart. He was taken to another hospital, and was detained. The following two days he vomited some bright red blood, but otherwise his condition was normal. X-ray examination of his chest revealed no bony injury, and after being kept under observation for one week he was discharged apparently normal. Ten days later he had an attack of vomiting, and the following day he had pain in the left side of his abdomen. The vomit this time showed no traces of blood. He was brought to this hospital, and on examination the following condition was revealed.

A large swelling was present in the left epigastric region; it was tender on palpation, was rounded off, and extended almost to the umbilicus. The percussion note was dull, and the stomach outline could be made out at its upper border. The tumour therefore occupied the position of the lesser peritoneal sac. The temperature was 100° F., pulse 120. Two days later Mr. Irwin operated. The abdomen was opened by a left rectus incision under local anaesthesia. The transverse colon was greatly distended, and in order to explore the lesser peritoneal cavity ether was resorted to. The mass was found to be an intraperitoneal pseudocyst of the pancreas occupying the lesser sac. It was approached through the gastrocolic omentum. The wall was incised, and the contents of the cavity (blood-stained fluid and a coagulated mucilaginous substance) evacuated. A cavity about the size of a hazel-nut was present in the substance of the pancreas. This cavity was covered by a thin membrane, and had evidently been a haematoma. A drainage tube was left in for two weeks, during which time a clear fluid discharged in decreasing amounts. This fluid on examination contained pancreatic enzymes. The boy made a complete recovery in five weeks.

The origin of the cyst was probably a small haematoma in the substance of the pancreas, caused by injury to the upper abdomen. The haematoma had occupied the cavity in the substance of the pancreas revealed at operation. This would be in agreement with the original article on the subject by Jordan Lloyd in the *British Medical Journal* (1892, ii, p. 1051). He was the first to point out that the majority of such cysts following abdominal injury were not true retention cysts of the pancreas. He reported two cases, both occurring after abdominal injury—one three weeks and the other three months. Both cases had been discharged from hospital, and were readmitted subsequently. He believed both to be associated with injury to the pancreas, probably by pressure against the first lumbar vertebra, but in neither case was the pancreas specially examined for evidence of injury.

Of 117 cases collected from the literature by Körte in 1911 there was a definite history of abdominal injury in 33. Among 41 cases collected by Judd in the records of the Mayo Clinic trauma seemed to be an etiological factor in one case only, the cyst occurring two months after the injury. Lazarus produced a cyst by crushing the pancreas of a dog. A haematoma was first formed, which later became an encapsuled cyst containing 100 c.cm. of fluid.

I am indebted to Mr. Irwin for permission to publish this case.

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VARIATIONS IN THE BLOOD UREA CONTENT.

THE following case is of interest as showing the remarkable variation possible in the blood urea content within a relatively short space of time.

A woman, aged 55, was admitted to St. Luke's Hospital, Bradford, on July 10th, 1928, with a history of renal colic, haematuria, and the passage of gravel. The pain was referred to the left side, but x-ray examination showed a large number of stones in the right kidney, with the left kidney area quite clear. Next day, at an operation, the right kidney was removed. The kidney was enlarged and its pelvis and calyces were almost solidly filled with calculi of varying size and shape. There was so little kidney substance present that the kidney was to all intents functionally useless. Subsequently the patient had a normal convalescence until August 14th, when she complained of some left-sided abdominal pain; the temperature rose to 102° F., and the passage of urine ceased completely. On August 16th no more urine had been passed, and the blood urea was 48 mg. per 100 c.cm. During the next week not more than 3 ounces of blood-stained urine were passed, and the general condition became steadily worse with progressive headache, drowsiness, and vomiting. There was no improvement in spite of treatment by the usual methods. On August 21st the blood urea was 360 mg. per 100 c.cm. During the next week no more urine was passed, and catheterization showed that no urine was present in the bladder. The symptoms became more distressing, but there were no signs of twitchings or commencing uraemic convulsions. On August 28th the blood urea had risen to 500 mg. per 100 c.cm. Then there came a dramatic change in the condition. That day a little blood-stained urine and some stones were passed per urethram, and this was followed by intense diuresis—over 15½ pints of urine being passed in the next sixteen hours. Subsequently there was a steady improvement in the general condition, and urine was passed normally. On September 4th the blood urea was 25 mg. per 100 c.cm.; on September 12th it was 30 mg. per 100 c.cm., and the patient was discharged in a satisfactory condition.

The chief features about this case are the steady rise in the blood urea associated with the progressive development of uraemic symptoms and the remarkable fall in the space of one week from 500 to 25 mg. per 100 c.cm. associated with the diuresis. It is to be noted that this fall was accomplished with one kidney, a tribute to its functional capacity.

I am indebted to Mr. Hughes for permission to publish this case, and to Dr. Ritchie for the blood urea estimations.

Bradford.

GEORGE BROWN, M.B., Ch.B.Ed.

IDIOSYNCRASY TO QUININE INJECTIONS.

THE following case of quinine idiosyncrasy in which rather alarming symptoms occurred after intravenous injection for varicose veins, seems worthy of note.

A married woman, aged 65, presented herself as an out-patient at the Skin Department of the Edinburgh Royal Infirmary suffering from varicose dermatitis, and it was decided to treat the causal condition—namely, the varicose veins. Accordingly 1 c.cm. of quinine and urethane solution, containing 0.13 gram quinine hydrochloride and 0.065 gram urethane, was injected into a varix in the lower third of the right leg above the area of dermatitis. Almost immediately after the injection the patient began to cough, and five minutes later she collapsed, falling from a chair to the floor. She was extremely cyanosed, and complained of inability to breathe and a sense of constriction of the chest. The pulse could hardly be felt, and was irregular in time and force. A subcutaneous injection was given of strychnine 1/40 grain and digitalin 1/100 grain. She gradually improved, and her first question was whether quinine had been given. She stated that twenty-four years previously she had taken quinine by the mouth and had suffered from breathlessness; she had been advised never to take quinine again. She was kept under observation in one of the medical wards and was able to return home next morning.

Ten days later she returned and declared she felt none the worse. A firm thrombus was present at the site of injection. The opportunity was taken to perform a cutaneous test with a 1 per cent. solution of quinine hydrochloride. One drop of the solution was placed on the forearm and the skin scarified under it. Sterile water was used as a control. Ten minutes later a definite wheal, surrounded by an area of erythema, was seen. The control showed only very slight redness due to the scarification. A similar test was performed on my own arm and no reaction occurred.

When there is any reason to suspect idiosyncrasy to quinine the simple test described should be employed. I have treated over thirty cases of varicose veins with quinine and urethane solution intravenously, and, apart from the case described, with no untoward result.

Dr. Cranston Low, physician, Skin Department, Edinburgh Royal Infirmary, has kindly granted me permission to publish this case.

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