the operative point of view, but from the history of antecedent ulceration of bowel with perforation and recovery.

A thin, delicate girl aged sixteen was sent to me by her medical man, Dr. J. Russell of Batley, on account of a fæcal fistula in the right cæcal region, through which pus and liquid fæces had been passing for some months, during which time she had been gradually losing weight and strength. She gave the history of having had an illness eighteen months previously, when a swelling with tenderness developed in the right side of the abdomen. She had diarrhœa and was feverish, and was told that there was inflammation of the bowels. After some weeks an abscess developed over the cæcum and was opened, a quantity of foul pus being let out. A week after the abscess had been opened fæcal matter began to be discharged from the wound, and this had continued since, though the bowels had been occasionally moved through the anus. On admission to hospital the patient was extremely thin, her bones showing visibly under the skin. There was a fæcal fistula midway between the umbilicus and the right anterior superior spine of the ilium, and the skin around the opening was excoriated, red, and inflamed by the irritation of liquid fæcal discharge and pus. The abdomen was quite flat, and no tumour could be felt. Charcoal administered by the mouth appeared at the fistula in thirteen hours. On July 10th, after laying open the rather extensive sinuses leading from the fistula, scraping them freely with a Volkmann's spoon and as far as possible asepticalising them by means of a 1 in 1000 perchloride solution, the abdomen was opened by an incision of three inches, the fistula being the centre of the incision. Adhesions were separated by the fingers and the affected gut brought outside the wound, the peritoneal cavity being protected by sponge packing. The fistula was in the ileum, and while the fingers would easily pass upwards nothing larger than a No. 12 catheter would pass through a stricture fully an inch in length just below the fistula. After passing a director through the stricture, which was evidently cicatricial, it was divided in the direction of the length of the bowel. A decalcified bone bobbin was then inserted and the cut edges were brought together transversely over it, as shown in the diagrams. A continuous catgut suture was

First stage, showing incision from fistula D through to C.

used to unite the mucous margins, and a silk suture the serous surfaces, thus restoring the continuity of the intestinal channel. After carefully cleansing the surrounding structures, the peritoneum, aponeurosis, and skin were apposed

Second stage, showing sides of incision A B drawn apart and ends C D.

in the usual manner. The patient suffered very little from shock, and the bowels were moved naturally on the second day. The deeper parts of the wound healed by first intention; the superficial by granulation. The patient's general condition began to improve at once, and she has never had

any bowel trouble since. When seen six months later, she looked a picture of health, had gained her usual colour and flesh, and expressed herself as quite well.

Remarks.—Simple stricture of the bowel is sufficiently rare to make it worth while reporting a single instance; but this case is also of interest from an operative point of view—not simply from the success of the modification of the operation by the use of the bone bobbin, but also because it shows that a plastic peritoneal operation may be undertaken with some prospect of success, though the way into the abdomen be through a foul abscess, if, as in the present case, the walls of the abscess and the surrounding parts be purified before the abdominal cavity is opened.

Leeds.

TWO CASES OF SEPTICÆMIA DUE TO MIDDLE-EAR DISEASE; OPERATION; RECOVERY.

By W. GIFFORD NASH, F.R.C.S. Eng.

CASE 1. Septic pleuro-pneumonia following a blow on the head in a boy suffering from otorrhœa.—A boy aged twelve, who had had otorrhœa for five years, was boxed on the ear on June 16th, 1892. This was immediately followed by headache and seven hours later by vomiting. Next morning headache, photophobia, fever, and delirium were present. Twenty-four hours after the blow I found him lying curled up in bed, objecting to light and interference, delirious, very flushed, and with a temperature of 103° F. and pulse 180. Half an hour later my partner, Mr. Kinsey, gave him chloroform, and I shaved the scalp and forcibly syringed out the right ear, removing a small granulation polypus. Three leeches were applied behind the ear and an icebag to the head. On June 18th he was still feverish, but there was no delirium. He was seen in consultation by Mr. Henry Morris, and with his sanction I trephined and gouged out the mastoid antrum. The dura mater covering the roof of the antrum was also exposed and found to be healthy. No pus was found. On the 20th there were frontal headache and pain in the right shoulder, as also a dry hacking cough suggestive of pleurisy. On the 21st the cough and pain continued. The temperature was 103·4°, the pulse 120, and the respiration 48. On the 22nd the temperature was 104·6°, the pulse 144, and the respiration 60. Pleuritic friction was heard over the left lower lobe and right upper and middle lobes, with numerous scattered patches of tubular breathing; there was also sweating. It was evident that septic pleuro-pneumonia was present. I proposed to explore the lateral sinus, and, if I found it thrombosed, to tie the internal jugular vein. The trephine was applied to the mastoid process over the lateral sinus. This did not pulsate, but looked healthy. A hypodermic syringe of blood was drawn off, showing that the sinus was not thrombosed. When the needle was withdrawn blood spurted from the puncture. The wound was closed and nothing further done. From June 22nd until the end of July the case was desperate. There were repeated fresh patches of pneumonia with elevation of temperature to 103° or 104°; the pulse varied up to 144, and the respiration up to 72. At one time tubular breathing and friction were heard over the whole of the right lung and lower lobe of the left. The expectoration was fetid, and there were profuse sweating and extreme emaciation. From this desperate condition he gradually recovered. The treatment consisted of milk, eggs and brandy, with quinine and digitalis. During August there were slight occasional rises of temperature. On Aug. 31st he got up, and on Oct. 1st he was allowed out of doors. He then looked as well as he did before the illness. There was no discharge from the right ear, and he could hear a watch tick at 12 in. The right side of the chest was much contracted. In August, 1894, he was in perfect health; the chest showed no sign of contraction; there was no deficiency of expansion or diminution of breath sounds, and no discharge from the ear.

Remarks.—I do not claim that the surgical measures adopted had anything to do with the recovery of this patient, but I believe it would have been culpable to have neglected them when it is considered how fatal these cases are when treated by medical means. There can be very little

doubt that the attack of pleuro-pneumonia of both lungs was set up by the blow on the head, as severe cerebral symptoms set in immediately after it was inflicted. It would appear as if the blow had dislodged some septic thrombus from the middle ear and produced thrombosis of some vein or veins entering the lateral sinus, from which septic emboli were carried to the lungs. The source of the sepsis I believe to have been sewer gas, as the house was proved to be very insanitary. Within nine months there occurred in the house one case of pelvic cellulitis, one of diphtheritic sore-throat, two other sore-throats, two cases of acute otitis media, and two of acute rheumatism. All these, I believe, may be caused by sewer gas. The symptoms of acute rheumatism and septicæmia bear such a close resemblance to one another that I need not do more than refer to them. An interesting feature of the case was the absence of rigors, which are usually considered to be diagnostic of septic thrombosis of the lateral sinus. The question arises, Would it have been better to have ligatured the internal jugular vein? I think it would, even in the absence of proof of thrombosis, for it would probably have cut short the illness and diminished the risk to life arising from the extensive inflammation of the lungs.

CASE 2. Subdural abscess and septic thrombosis of the lateral sinus; drainage of abscess and sinus; ligature of internal jugular vein; recovery.—A boy aged fifteen had suffered intermittently for two years from left otorrhœa, which had been treated with antiseptic lotions and powders. A granulation polypus had been removed from a perforation in the upper part of the membrana tympani during the previous summer. On March 20th, 1894, he was supposed to have caught cold, and on the 23rd he began to suffer from earache and headache. On the 29th his temperature was 102° F. There was no loss of appetite, and no sickness or shivering. I first saw him on April 1st and found him in bed, flushed and drowsy; he objected to light and was very deaf. His temperature was 103·6°, the pulse 90, and the respiration 24. The left side of his face was puffy. The discharge from the ear was most offensive. There was slight tenderness over the mastoid antrum and cells, and marked tenderness over the large vessels in the neck. There were no physical signs of any lung or heart affection, and no cough or pain in the chest. There was commencing optic neuritis. After consultation with Mr. Kinsey I operated. First a small trephine was applied just above and behind the meatus, and the middle fossa of the base of the skull was opened. The dura mater was found to be healthy. Next, the mastoid antrum was opened. The bone behind this was very soft, and whilst gouging it a most offensive smell arose. An abscess was opened lying between the bone and the lateral sinus, and about two drachms of foul-smelling pus were evacuated. The wall of the lateral sinus was thickened, discoloured, and sloughing. A free escape was provided for the matter. In the absence of rigors it was not considered necessary to tie the internal jugular vein. Next morning the temperature was 100·4° and the pulse 80. About noon he had a rigor and the temperature rose to 104°. At 3 P.M. I tied and divided the internal jugular vein at about the level of the cricoid cartilage. At that point the common facial vein joined it. There was a free current in the facial vein, but none in the jugular, above their junction. The ligatures were applied above their junction. The ear wound was then reopened and the wall of the lateral sinus cut away, exposing a firm, dark blood-clot filling the sinus. The same evening I was laid up with influenza, so that for the greater part of the further treatment and notes I am indebted to Mr. Kinsey. After this, symptoms supervened which gave rise to considerable anxiety as to whether or not a cerebral abscess was forming. The boy became very emaciated. On the 11th the stitches were removed from the wound in the neck, which had healed by first intention. On that day he began to complain of frontal headache, was very restless, and vomited. He also became drowsy, in consequence of which, on the 15th, the mastoid wound was reopened and enlarged. All granulations were scraped away and about two drachms of pus let out from the occipital portion of the lateral sinus. A probe was passed as far as the torcular Herophili and caused slight bleeding. A drainage-tube was inserted in the sinus and the middle ear thoroughly scraped out. On the 17th he had a rigor, which was followed by a swelling on the left side of the neck, which spread upwards over the face and downwards below the clavicle. On the 19th an incision was made in the swelling in the neck, and some foul-smelling pus evacuated. After

this all went well, and by May 16th all the wounds were healed.

Remarks.—This case exemplifies an interesting sequence of events—viz., chronic otorrhœa, suppuration in the mastoid antrum, subdural abscess, and thrombosis of the lateral sinus. The course of events, modified by treatment, was as follows: (1) The subdural abscess and mastoid antrum were cleared out and drained, but already the septic inflammation had involved the lateral sinus; (2) absorption of septic material from the thrombus necessitated ligature and division of the internal jugular vein to cut off the source of infection from the general circulation—the lateral sinus was opened to permit of the escape of the breaking-down clot; (3) it was necessary to reopen and enlarge the mastoid wound to allow pus to escape from the lateral sinus; and (4) the subcutaneous abscess in the neck was opened. The cause of this abscess seems to have been one of two. Either it was cellulitis due to septic material carried by the lymphatics from the wound behind the ear, or it was due to the breaking down of the clot in the jugular vein, between the base of the skull and the ligature.

Obliteration of the left internal jugular vein, by clot or ligature gives rise to less disturbance of the cerebral circulation than obliteration of the right vein, as the superior longitudinal sinus usually enters the right lateral sinus, which is then much the largest. The abnormally low entrance of the common facial vein into the jugular was also of interest, as through it the blood coming from the brain through the angular vein was able to reach the jugular below the ligature. The question arises, Should I have ligatured the lateral sinus outside the torcular Herophili, as is advised by Mr. Arbuthnot Lane? I think it would have been wise to have done so, and certainly better surgery. Suppuration must have occurred as far as the torcular Herophili, and one sees no reason why it should not have gone on extending further. In fact, it probably would have done so had not a drainage-tube been introduced into the sinus. The risk incurred by ligaturing the sinus must be small compared with that from the extension of the septic thrombus.

Bedford.

A CASE OF TUBERCLE OF THE LEFT OPTIC THALAMUS EXHIBITING INTENTION- TREMOR, AND ATTACKS OF TETANOID RIGIDITY; NECROPSY; REMARKS.

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A BOY aged six years was admitted as a home patient at the Chorlton-upon-Medlock Dispensary under my care on Dec. 17th, 1894. The patient was apparently quite well until seven weeks before admission, when the mother noticed that he dragged his right leg on walking. Two or three days after this it was observed, when he was taking his food, that he held the spoon in his left hand, and upon his mother insisting that he made use of the right hand for that purpose this latter hand began to tremble. At first the trembling was slight, but it gradually got more and more marked. For the last three weeks he had complained of severe frontal headache, and there had been vomiting for the last four days. Lately, also, he had not seemed to see things well. The father died two years ago of apoplexy. The mother gave a history of four miscarriages out of eight pregnancies, and had had a sore-throat for six months at a time. The mother's father died of phthisis. On admission an exceedingly well-marked, coarse, jerky tremor was seen in the right arm on movement. This disappeared entirely when the arm was at rest. The movements came largely from the shoulder. There was no nystagmus or syllabic speech. The right arm and leg were distinctly weaker than those of the left. There was no facial paralysis. There was well-marked and persistent ankle-clonus on the right side, but ankle-clonus was not obtained on the left. Both wrist-jerks were present and about equal upon the two sides. The epigastric, abdominal, cremasteric, and plantar reflexes were all obtained, but showed no difference on either side. There