puncture: fluid under high pressure but clear. No organisms found. Culture sterile. Temperature for the past five days 97.8° to 99.6°. All drowsiness has disappeared; appetite and well-being are returning.

On December 4th the right pupil was still larger than the left and optic neuritis was more marked on the right side than before; there was right external strabismus (this was transient and will not be referred to again). On December 6th the wound was re-dressed as before under general anaesthesia. On lumbar puncture the fluid was normal in appearance and flow.

December 12th: Wound re-dressed under general anaesthesia. The temperature oscillated very slightly around normal. The patient sat up in bed. Optic neuritis, right and left, steadily diminishing. Swelling of discs: right, 2 D; left, 3 D. The oculist (Mr. Loosely) is of opinion that some degree of optic atrophy will result.

From this time onwards recovery was uneventful. The dressings since December 12th were performed without an anaesthetic. The membrana tympani had healed. With the Bárány noise-box applied to the left ear to exclude its function the right ear heard as follows: conversational voice, 20 feet; whisper, 4 feet.

Commentary.

1. Although on no occasion were organisms found in, or grown from, the cerebro-spinal fluid, the diagnosis of meningitis was nevertheless obvious from the turbidity and presence of pus cells.

2. In the course of the illness optic neuritis appeared early and disappeared late. Being a true inflammation and not a mere congestion, this lesion cleared up only slowly after the exciting cause had been dealt with.

3. The jugular vein was not tied. This was partly because the child would obviously not have stood the necessary prolongation of anaesthesia, but also because it is debatable whether the usefulness of thus cutting off the peripheral outflow (even although the common facial vein also be ligatured) may not be discounted by the remaining patency of the petrosal sinuses.

4. We have here another instance of the value of bipp. The intervals between the first four dressings were respectively 3, 5, 7, and 6 days; during the whole period the temperature remained low.

5. The residual hearing is very satisfactory.

FATAL THROMBO-ARTERITIS OF THE RIGHT MIDDLE CEREBRAL ARTERY OF UNCERTAIN CAUSATION.

BY

F. PARKES WEBER, M.A., M.D., F.R.C.P.

THE following brief report of a case of fatal thrombo-arteritis of the right middle cerebral artery is of interest, and may serve to draw attention to a subject of some importance.

The patient, A. H., aged 43 years, a Russian Hebrew cabinet-maker in London, had a cerebral "stroke" of some kind on the evening of December 29th, 1922, and remained in a semi-conscious condition, with left hemiplegia, thought to be probably due to haemorrhage on the right side of the brain. He had previously enjoyed good health, and had had five children, all of whom were living. He was admitted to hospital on the morning of January 1st, 1923, still in a semi-conscious state. There was no fever. He could hardly be roused to answer questions. His left knee-jerk was greatly exaggerated. The plantar reflex on the left side was of the extensor type (Babinski's sign), and on the right side was of the normal flexor type. The cremasteric and superficial abdominal reflexes were absent on the left side and present on the right side. Ophthalmoscopic examination (Dr. R. Gruber) showed slight blurring of the inner margin of the optic discs, suggesting commencing optic neuritis. The brachial systolic blood pressure was 130 mm. Hg. The blood serum gave a completely negative Wassermann reaction. The urine was passed into the bed. The condition became gradually worse, and Cheyne-Stokes respiration preceded death on the evening of January 2nd.

Necropsy.

The necropsy, which was performed by the house-physician, Dr. G. Welsch, in my presence, except for passive congestion of the viscera, showed nothing special beyond thrombosis of the trunk and branches of the right middle cerebral artery, with extensive (white) softening on the right side of the brain. There was no chronic interstitial nephritis and the heart and great blood vessels were healthy. There was nothing to suggest cerebral embolism.

In regard to the microscopic examination I have to thank Dr. J. G. Greenfield for his kind help. There was evidence of arteritis, but not of syphilitic endarteritis obliterans. The main part of the middle cerebral artery (trunk) showed a degenerated inflammatory area on one side only. The inflammation appeared to be older there than in the more distal parts. At the region of the first branch of the middle cerebral artery the vessel walls showed similar inflammatory areas. As to the type of cells in the

inflammatory areas, many of the cells were so degenerated that it was impossible to be sure whether they were polymorphonuclear or not. Some of the less degenerate cells were definitely mononuclear and some were polymorphonuclear. By Gram staining Dr. Greenfield failed to find any definite organisms in the necrotic masses of cells or in their vicinity, though some were present in the clot. The arteritis was apparently confined to the main trunk of the middle cerebral artery.

Dr. Greenfield suggested that we might be dealing with an arteritis secondary to suppuration in the splenoidal cells, which is often unaccompanied by obvious clinical symptoms. It has, however, occurred to me that the arteritis might have been analogous to the arteritis of middle-sized arteries in the extremities in so-called thrombo-angiitis obliterans of Hebrews. In a typical case of the latter disease a middle-aged Hebrew, who had long had intermittent claudication of both lower extremities with absence of pulsation in the pedal arteries, I once was able to observe the commencement of thrombo-arteritis obliterans in the radial artery at one wrist. The man complained of a tender swelling in that situation, and when the swelling gradually subsided pulsation in that portion of the radial artery (which had been present up to the time of the appearance of the swelling) was found to be absent. This was several years ago, and pulsation has not returned. The process seemed to resemble what takes place in superficial veins during attacks of nodular thrombophlebitis, to which Hebrews with thrombo-arteritis of one or both lower extremities are sometimes subject. (That particular patient had suffered a good deal from superficial thrombophlebitis.)

It is worth mentioning that in the case of the patient A. H. some urine collected from the urinary bladder at the *post-mortem* examination was found to contain much albumin, but no tube casts. J. Sabrazès and Ch. Massias have recently (abstract in the *Presse médicale*, Paris, 1923, xxxi, p. 104) drawn attention to the occurrence of "massive" albuminuria, without tube casts in the urine, in cases of cerebral haemorrhage. They found that in a young rabbit, when 2 to 3 c.cm. of its own blood were injected into its brain, albuminuria accompanied the resulting apoplectic shock, the albumin in the urine reaching 4.6 per mille at the time of the animal's death, thirty hours afterwards.

RUPTURE OF RENAL ARTERY AND VEIN BY SLIGHT INJURY: OPERATION: RECOVERY.

BY

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THE following case seems worthy of note as an example of the serious lesion which can occur in a hydronephrotic kidney as the result of very inconsiderable trauma. Moreover, I have not been able to find a record of any similar case.

A boy, aged 18, was admitted to the Prince of Wales's Hospital with haematuria. Two days previously he fell while playing cricket and pushed his elbow into his left side. The pain was very slight, and he thought so little of the accident that he continued playing. The next day his side was stiff and painful, and he was passing blood in his water all day. On the day of his admission the pain in his side was less, but he still had haematuria, and consequently consulted his doctor, who sent him to hospital the same afternoon.

On admission he did not look ill, distressed, or pale. The whole of the left side of the abdomen and the left flank were rigid and tender, sufficiently to make examination difficult; but palpation of the left kidney region revealed an indefinite swelling below the costal margin which was dull to percussion. The lower pole of the right kidney could be felt with ease. The abdomen was not distended and there was no evidence of free fluid. The temperature was 99°, pulse 104, and the urine contained old dark blood in large quantity. In view of the fact that the boy did not appear ill and that there was no fresh blood in the urine it was decided to do nothing in the way of operation, but to keep him quiet in bed. He continued to pass dark blood in the water for the remainder of the day, but with no rise of pulse rate. His bowels not having been open since the accident he was given an enema, with no result.

The following morning he seemed quite well, though still passing blood. There was no result from an enema. In the afternoon he suddenly vomited three times, looked rather distressed, the abdomen became slightly distended, and the pulse rate rose from 100 to 120. His condition did not improve, and when seen by me later he looked definitely ill. The abdomen was less rigid than before on the left side and in the flank, and a large mass could be felt extending down from the left kidney region to the iliac crest and dull on percussion. The abdomen was somewhat distended, tympanitic on the right side, with no evidence of free fluid. The

right kidney was now not palpable on account of the distension. The temperature was 101° , the pulse 126, the urine still contained much dark but no recent blood. Per rectum there was a little fullness in the recto-vesical pouch, but no tenderness. The rectum was empty. Having regard to the onset of abdominal signs, it was thought possible that at the time of the accident there had been a tear of the peritoneum, that since then there had been a gradual leak of urine into the peritoneal cavity, and that now a spreading peritonitis was beginning. I therefore decided to open the abdomen.

Operation.

The abdomen was opened by a left paramedian incision. The descending colon was found pushed forward by a large retro-peritoneal haematoma extending from the region of the left kidney down to the brim of the pelvis. This piece of intestine was small and contracted, but proximal to it the whole intestinal tract was definitely distended. There was no peritonitis. Apparently the large haematoma had so interfered with the action of the descending colon as to paralyse it temporarily and cause an intestinal obstruction which enemata had failed to relieve. It was decided to explore the kidney and at the same time clear out the haematoma and relieve the descending colon, and to do this from the loin in order to avoid contaminating the peritoneal cavity with a possibly infected haematoma. The abdominal wound was therefore closed and the kidney exposed from the loin. It was entirely concealed by organizing blood clot, which was cleared away until the surface of the kidney was reached. On clearing the organ further it was found to be a very large hydronephrosis in which practically no kidney tissue was left. As it could be of no functional value, and as a large right kidney had been palpated, nephrectomy was decided upon. The ureter was found with some difficulty, but the renal vessels could not be discovered. A mass of blood clot in about the position where the vessels should have been was ligatured, the kidney removed, as much as possible of the haematoma cleared out, and the wound closed with a small drainage tube in one angle. Vigorous treatment with calomel, pituitrin, and enemata soon reduced the distension and got the bowel working again, and the patient made an uninterrupted recovery.

Specimen.

An examination of the kidney removed showed a hydronephrosis due to a congenitally narrowed ureteric strait, the kidney substance being almost non-existent. On searching for the renal vessels they were found, not in the piece of tissue which had been ligatured, but torn off close to the kidney just below this. Both artery and vein were very much smaller than normal, as was to be expected in a congenital hydronephrosis, and both were occluded by a thrombus. The injury had apparently been sufficient to tear through both, and the resulting haemorrhage had ceased spontaneously. The vessels were certainly not torn through in removing the kidney, as shown by the large retrocolic haematoma and by the fact that both vessels were closed by a thrombus. Moreover, the blood clot in the region of the renal vessels was separated very carefully by blunt dissection in looking for them.

It is a well recognized fact that haemorrhage occurs from hydronephrotic kidneys on very slight provocation, but rupture of both renal vessels following such a trivial injury seems a matter of sufficient interest to put on record. Oddly enough, in connexion with this tendency of a hydronephrotic kidney to bleed, two days after the above patient's admission a man came to hospital complaining of a sudden onset of haematuria following a fall off a bicycle, in which he did not hurt himself at all. He was found to have a calculous hydronephrosis.

I have to thank Mr. Carson, under whose care the patient was admitted, for permission to publish this case.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

STRANGULATION OF AN APPENDIX EPIPLOICA SIMULATING APPENDICITIS.

The following case is chiefly of interest in illustrating a mistake in diagnosis.

A young man gave me the history that he had just recovered from a second attack of "appendicitis." Four weeks had elapsed between the two attacks. On each occasion the onset was sudden; severe pain was felt in the right iliac fossa, accompanied by nausea and vomiting. For some weeks he had suffered from dyspepsia with much flatulence.

I found a tender spot about one and a half inches above and slightly internal to the anterior superior iliac spine. Deep pressure caused him to wince, and a small hard lump could be felt, closely resembling an inflamed vermiform appendix when encased by a roll of omentum. Abdominal rigidity was hardly perceptible.

Operation performed the day following my examination revealed a vermiform appendix evidently healthy. About three inches distal to the caecal extremity of the appendix, upon the postero-external aspect of the caecum, was exposed a small plum-coloured lump, sessile upon the peritoneal coat of the gut. The appendix and the small tumour were removed, and both were examined at the

Royal College of Physicians laboratory, Edinburgh. The report was as follows: "The appendix shows early follicular ulceration; the small tumour shows the structure of an appendix epiploica with inflammatory reaction and recent haemorrhage."

It is worthy of note that this appendix epiploica was found near the post-external taenia coli, and that it gave rise to a mistaken diagnosis of appendicitis.

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CONGENITAL ABSENCE OF THE RADIUS.

As cases of congenital absence of the radius are not infrequent, and therefore not mere curiosities, the report of the following cases may be of interest. Potel collected reports of 200 cases, and Antonelli found it twice as common in males in the 114 cases he collected. Kummel says the prognosis is grave, as the patients show a general lack of resistance to disease, 27 being the oldest age recorded. Tubby saw 11 cases in eighteen years. In 1882 Shattock described 4 cases in still-born foetuses; these were dissected and the specimens illustrated. His first case was identical with the two to be described. Milne, in 1915, recorded a case in an imbecile, but five fingers were present. Scord in 1915 described a similar case in which there was a strong syphilitic taint.

The first of the cases now to be recorded occurred on the left side in a male aged 18, admitted under Mr. Dobson for inguinal hernia. His family history is good and himself otherwise normal. The humerus is about 1 in. shorter than the healthy one; there is a great deficiency in muscular development. The elbow-joint is very limited in its movement. The carpus articulates with the outer border of the ulna, which is curved and shortened. This hand is usually pronated; almost full supination is possible with assistance. The scaphoid, trapezium, and thumb are absent. Syndactylism occurs in the second and third fingers, which cannot be fully extended. His first and fourth fingers are abducted. He grips firmly by flexing his wrist and fingers, especially the first, on his elbow. Movement up and down in the axis of the false joint is very free. In supination the wrist moves dorsally over the ulna.

FIG. 1.—Case i: Congenital absence of radius.

FIG. 2.—Case ii: A, Congenital absence of radius. B, Thumb: absence of adductor pollicis and flexor brevis pollicis.

The second case occurred in a man, aged 30, with a good family history and himself quite normal otherwise. The shoulder muscles are well developed and the movements extraordinarily free. The arm muscles are functional but weak. The elbow moves freely through 90 degrees, beyond which it will not go. The forearm shows strong muscular bellies on the concavity of the ulna, which is very stoutly built. The hand shows absence of the thumb, scaphoid, and