Subsequent Progress.

During the next twenty-four hours a copious discharge takes place identical with the fluid the patient was vomiting before the operation. After this, as the intestine clears itself, the discharge becomes thinner and odourless, and increasingly bile-stained until it consists of the normal jejunal contents. At the end of a week, or sooner, undigested food particles appear, and the skin in the vicinity of the opening becomes very red and excoriated. The patient rapidly wastes, and it is now time to consider the closure of the opening.

During this period the treatment should be as follows: For the first forty-eight hours nothing but water should be given by the mouth, to which brandy or whisky may be added as required. The amount of water given should not be stinted. After this the patient should be given easily absorbable meat essences and extracts, freely and at short intervals. It is no use giving food substances which require jejunal digestion, like milk, for instance, which is merely passed in clots out of the jejunal opening. Rectal saline infusions with glucose added should also be given every four or six hours. If the patient's condition is very bad continuous infusion of saline solution into the thighs is the best of all restoratives. Brandy may be added in the proportion of 1 oz. to a quart. For the discharge frequent changing of the dressings is required, and the skin should be protected by smearing it with a thick mixture of castor oil and oxide of zinc.

The Second Operation.

At the end of a week or ten days closure of the jejunal opening has to be undertaken. As by this time the skin is very red and excoriated around the opening, the preparation of the operation area should be limited to the application of iodine solution on the table. It is no use attempting a paring operation, the whole opening must be removed, the bowel sutured end to end, and the abdominal wound separately closed. The skin incision should begin $1\frac{1}{2}$ in. above the opening, and continue downwards until the opening is nearly reached. It should then bifurcate to surround the opening $\frac{1}{2}$ in. outside the muco-cutaneous junction and unite again below it. The peritoneal cavity should now be opened *above* the adherent bowel, and a finger inserted to make out the limit of its deep attachment. Guided by this finger the bowel is entirely freed, bringing away with it that part of the abdominal wall included in the oval area demarcated by the skin incision. The freed coil having been brought up, a clamp is applied to the intestine on each side of the opening, and about two inches from it, so as prevent the escape of the contents. Sterile towels are now packed round the coil so as to exclude the wound edges and the peritoneum and the previously attached portion is cut away down to the mesenteric attachment. An end-to-end anastomosis is then performed with three layers of sutures for extra security. The bowel is dropped back and the wound in the parietes closed with a single layer of stout sutures.

For the first forty-eight hours after the closure it is better to restrict the patients to water by the mouth, but this may be given freely. Afterwards, and up to the end of the first week, the diet should be limited to easily-absorbable meat extracts and essences.

Report of Cases.

I give below short details of six cases of jejunostomy, five of my own (all I have performed) and one of my colleague's, Mr. Bryden Glendining, which he has very kindly given me leave to publish.

CASE I.

Paralytic obstruction of the last 3 ft. of the ileum and of the caecum and ascending colon forty-eight hours after radical removal of carcinoma of the cervix. Faecal vomiting. Jejunostomy was performed with immediate relief. Jejunal opening closed about a week later. Recovery.

CASE II.

A case in which an ovarian dermoid was forced through the wall of the rectum above the floor of Douglas's pouch by the child's head during labour. Primary operation thirty-six hours later; general peritonitis. It being impossible to suture the bowel, the uterus and broad ligaments were sutured to the back of the pelvis, so as to exclude that cavity. Enormous distension and faecal vomiting. Jejunostomy performed two days later

with immediate relief. Jejunal opening closed about a week later. Recovery.

CASE III.

General peritonitis due to a suppurative ovarian cyst. Cyst removed. Obstructive symptoms appeared with faecal vomiting. Jejunostomy with immediate relief. Jejunal opening closed some days later. Recovery.

CASE IV.

Operation for extrauterine gestation. Patient became distended. Mr. Handley in my absence reopened the wound. Patient greatly relieved for two days. Symptoms of acute obstruction then became manifest, with copious intestinal vomiting. I reopened the wound, and found enormous distension of the upper part of the small intestine. Jejunostomy with immediate relief. Jejunal opening closed a week later. Recovery.

CASE V.

Patient had been operated on for papilliferous ovarian cyst two years before. Admitted for intestinal obstruction and faecal vomiting. Scar reopened; many adhesions and great distension found. Jejunostomy with immediate relief. Jejunal opening closed a week later. Recovery.

CASE VI (Mr. Glendining).

Operation for suppurative disease of the uterine appendages. Seventeen days later wound reopened for further collections of pus in the pelvis. Abdominal distension increased, with faecal vomiting and signs of obstruction. Five days later jejunostomy. Stomach washed out and 1 pint of liquid paraffin poured into the bowel. Six days later excision of piece of jejunum and anastomosis. Recovery.

REFERENCE.

¹ BRITISH MEDICAL JOURNAL, April 8th, 1916.

A CASE OF MARKED TEMPORARY APHASIA AFTER LIGATURE OF THE COMMON CAROTID ARTERY FOR TRAUMATIC ANEURYSM.

By FRANK COLE MADDEN, M.D. MELB., F.R.C.S. ENG.,
PROFESSOR OF SURGERY, EGYPTIAN GOVERNMENT SCHOOL
OF MEDICINE; SENIOR SURGEON, KASR-EL-AINY
HOSPITAL, CAIRO.

DURING the year 1915 we treated upwards of 5,000 sick and wounded soldiers—British, Australian, and Turkish—in Kasr-el-Ainy; but with all the chances of damage in many cases of bullet wounds we had only one case of obvious penetration of the large vessels of the neck.

This case, which unfortunately ended fatally, reached us many days after the infliction of the wound, and was that of a British soldier with a bullet which had passed through the upper jaw on the right side, then through the soft palate and side of the pharynx and on down the neck in front of the sterno-mastoid. An x-ray photograph showed the bullet lying in front of the body of the sixth cervical vertebra rather to the right side. A well-marked pulsating swelling was present over the carotid artery, on which we proposed operating when the general condition had improved. Our hands were forced, however, owing to the occurrence of repeated disquieting secondary haemorrhages from the wound in the pharynx. On the advice and with the kind assistance of the late Colonel Stonham, consulting surgeon to the forces, I cut down in the neck and found a very extensive slitting of the internal jugular vein, pouring blood into a very thin-walled pouch, only very imperfectly delimited from the surrounding tissues. There was no injury to the arteries of the neck. Though we were able to secure the divided ends of the vein, the shock and haemorrhage at the operation were too great to be borne by an already very enfeebled patient, and he died shortly after the operation.

It remained for our civil patients, who were once again admitted to the hospital after the stress of wounded had passed, to furnish us with a much more perfect case of combined injury to artery and vein in the neck, which, for several reasons, is worth placing on record.

History and Condition on Admission.

He was a young Egyptian carpenter, aged 23, named Mustapha Aly, admitted on February 15th, 1916. He stated that he had been stabbed in the left side of the neck with a chisel three days before. At the time there had been considerable haemorrhage, which had soon stopped. Very shortly after the blow he noticed a swelling at the site of the wound, which induced him to apply for advice. The external wound was situated over the middle of the left sterno-mastoid, and had almost quite healed, but a large pulsating swelling occupied the space

in front of the muscle, and extended well down the neck and towards the outer margin of the muscle. This had all the characters of an arterio-venous injury, and tended to increase slowly in size in all directions during the few days preceding operation. It appeared to be directly in connexion with the left common carotid artery, pressure on which completely stopped the expansile pulsation of the swelling and considerably reduced its size. Beyond the presence of the swelling and slight interference with the movements of the neck, the patient was not in any way bothered.

Operation.

At the operation, on February 26th, a free incision was made from the upper limits of the swelling along the anterior border of the sterno-mastoid nearly down to the sterno-clavicular articulation. After reflecting the skin, dissection disclosed that the main mass of the pulsating tumour occupied the substance of the left sterno-mastoid muscle, and was exceedingly thin-walled in its upper and outer part. By retracting the muscle backwards it was found that the common carotid formed a kind of neck to the sac, and the internal jugular vein passed straight into it. While attempting to clear the neck of the sac from below it gave way and some haemorrhage occurred, which was immediately controlled by pressure on the artery lower down. The common carotid and the internal jugular vein were then ligatured well below the lower limits of the sac, and the difficult part of the operation appeared to be over. Then the sac burst, and we saw that there was a considerable length of the internal jugular vein split inside it. Haemorrhage was free, and only partially stopped by pressure; and it was not till, after considerable tedious dissection, we had ligatured the internal jugular vein and a large posterior tributary and the external carotid artery above that all bleeding ceased. The sac was then opened up and cleared, and it was seen to be confined to the body of the muscle. Beyond the limits of the muscle there was no definite sac, and it is remarkable that a more extensive and diffuse extravasation of blood had not taken place. The operation took nearly two hours, and the patient, who had been given intravenous saline injection on the table, had a fairly good pulse, and under appropriate treatment soon rallied.

After-History.

But he lay in a dull, heavy, stupid condition for twenty-four hours. After that he gradually seemed to understand what was said to him, but was quite unable to put any of his thoughts into words for several days. His pupils were equal, as were his radial pulses; he swallowed well and, though quite aphasic, was able to make certain grunting noises, which reassured us as to the integrity of his recurrent laryngeal nerve. For two or three days there was a definite paresis of the right side, and the grip of the right hand was appreciably weaker than the left. Rectal and bladder functions were not interfered with in any way after the first twenty-four hours.

The peripheral symptoms very soon passed off, and in ten days' time no difference in the power of the limbs could be distinguished. The mental dulness rapidly improved, but recovery from the aphasia was a much more gradual process. About fourteen days after operation, much to his delight and to our satisfaction, he greeted me by articulating quite distinctly, after one or two false starts, "My name is Mustapha" (in Arabic), and two days later he wished me "Good-morning," without any preliminary bungling. Very gradually his re-education has proceeded, until now, four weeks after operation, he is sufficiently recovered to be able to tell us where he lives and to ask to be discharged.

His wound healed perfectly, and there is only a small hard lump in the muscle. In the left side of the neck no dilatation of veins can be seen, and there is no pulsation to be felt either along the course of the carotid or over the facial or temporal arteries. The radial pulses are the same on both sides.

Every day his aphasia is less, and it is very interesting to note his distress and annoyance at not being able to put his ideas into words, especially now that his mental condition is so thoroughly re-established and his ideas flow so much more readily. So rapid has been his progress in the last few days that I am hopeful he will eventually completely recover without any physical or mental defect.

NOTES ON A FATAL CASE OF ACUTE NEPHRITIS OCCURRING IN THE EXPEDITIONARY FORCE.

By RICHARD C. CLARKE, CAPT. R.A.M.C.(T.F.),
ASSISTANT PHYSICIAN TO THE BRISTOL ROYAL INFIRMARY.

My reason for publishing these notes on this single and rather incomplete case of nephritis is that I think it of peculiar interest; it gives me at any rate food for thought, and may help to elucidate the problems of this disease. Also, although I am, I admit, out of touch with the literature, I understand that very few complete *post-mortem* examinations on early cases of nephritis occurring in our forces in the field have been made.

Driver L., A.S.C., attached to a field ambulance, was admitted into the clearing station on February 17th, 1916. On January 30th his urine was examined, in course of a routine

examination of his unit by Captain McLeod of a mobile laboratory, and found to be normal. On February 7th he reported sick, and two days after he was admitted into the field ambulance with follicular tonsillitis. The temperature never exceeded 101° F. In two days the fever subsided and the throat cleared up. At this stage a moderate amount of albuminuria was present, but no oedema. For the next three days the temperature kept down, and the only thing which prevented his being returned to duty was the presence of complete anorexia and some vomiting.

On the fifth day in hospital his face was noticed to be puffy, and there was a large amount of albumin in the urine. The next evening the temperature ran up to 102.6° F., and in the morning he was evacuated to the casualty clearing station. He arrived with the convoy at about 2 p.m., and I examined him at 3 p.m. He looked very pale and ill and complained of headache and weakness. There was no marked oedema of the face, though there was some swelling of the ankles and a well-marked lumbar pad. The temperature was 100.5° F., and the tongue furred, brown, and extremely dry. The pulse was 100 and of fair quality. Except that the heart sounds were rapid and slightly feeble, and that there were rhonchi at the bases, the examination of the chest was negative. The abdomen was somewhat tumid, and there were signs of moderate ascites. The liver dullness was higher than normal behind, and the edge was felt in front below the costal margin. The spleen was not felt. Examination of the central nervous system elicited nothing unusual. The fundus was not examined. His general condition, though serious, did not lead me to suppose then that he would die. The urine was fairly profuse, pale, and clear. On boiling it was solid with albumin. On spinning the sediment showed hyaline casts, often with polymorphonuclears attached and free polymorphs. There were no epithelial casts, and nothing suggestive of the presence of epithelial cells.

I saw him again in the evening and found him no worse. Towards the morning he had diarrhoea and abdominal pain, and at 8.30 a.m. suddenly collapsed. I saw him shortly after, and found him cold and pulseless, but quite conscious and complaining of abdominal pain. He died an hour later, perfectly conscious to the last; in fact, he dictated a letter home some ten minutes before he died.

Necropsy.

I performed a *post-mortem* examination two hours after death, with Captain McLeod and Dr. Amecielle of the French medical service.

There was no abnormal pericardial fluid. The heart was small and the walls of the left ventricle distinctly thickened. The valves and aorta were normal. There was oedema of the bases of the lungs. The peritoneal cavity contained about 2 pints of opalescent fluid. The intestines were normal.

The liver was somewhat enlarged and fatty. The spleen was enlarged slightly, flabby; no necrotic patches. The kidneys were large, firm, and congested. There was much swelling of the cortex and pyramids, the latter standing out very clearly. The capsule stripped easily. The bladder was normal, as was the pancreas. The suprarenals showed some medullary hypertrophy and medullary haemorrhages. The meninges were slightly injected and the brain a little oedematous.

Blood taken from the vena cava contained 1.80 grams of urea per litre. A blood film taken just before death showed a high polymorphonuclear leucocytosis, estimated at about 40,000.

Bacteriological Data.—The peritoneal fluid yielded on spinning a sediment of leucocytes, mostly polymorphonuclear, amongst which were very numerous streptococcal chains of medium length. No organisms were found in smear preparations of the kidney or spleen pulp, but polymorphonuclear leucocytes were very numerous in the smears from the spleen. A growth of streptococci was obtained both from the kidney and the spleen. The organism had moderate haemolytic power; 5 c.cm. of a thirty-six-hour culture in horse serum bouillon, when injected subcutaneously into a rabbit, did not cause the death of the animal. A control injection into a similar rabbit of a streptococcus taken originally from a wounded French soldier in subculture for five or six months killed the animal. The only other organism isolated from the viscera was a coliform bacillus, which, as it grew from only one of several preparations of the kidney, can, I think, be disregarded as a *post-mortem* examination.

Microscopic sections of the organs showed that in the kidney the main brunt of the attack had fallen on the interstitial tissue. The glomeruli had escaped entirely and most of the tubules. In the interstitial tissue were several areas of acute congestion. In these were foci of polymorphonuclear and large mononuclear renocytes, forming microscopical abscesses. The tubules running through these areas showed some degeneration, but no desquamation of the cells. More over diapedesis of polymorphonuclear cells was seen taking place through the basement membrane, and some were seen in the lumen of the tubules. Globules of fat were seen in many of the liver cells. There were a few areas of cellular necrosis in the cortex of the suprarenal. The medulla showed haemorrhages and collections of polymorphonuclear leucocytes, and there was distinct medullary hyperplasia. Lungs showed some foci of congestion and oedema. The spleen was congested with an undue amount of leucocytes. The heart and pancreas were normal.

The actual cause of death in this case was, I think, septicaemia in a patient whose resistance was lowered by a certain amount of uraemia. The slight uraemic symptoms, namely, headache and anorexia, the mode of death