there was a recurrence of the membrane in the throat, I again injected the antitoxin. From this time there was no relapse, and the cornea began to clear. The condition of both eyes at this time was inability to open the lids, great vascularity and redness of the conjunctiva, purulent discharge, and complete opacity of the cornea. We continued the nitrate and boroglyceride, and instilled atropine every two hours, substituting eserine at night and in the morning. The layers of the cornea separated and came away in the syringing. Unfortunately the infiltration of the right cornea was so deep that perforation took place. The left eye has cleared up entirely with the exception of a very small nebula at the lower margin, which is rapidly disappearing. The sight in this eye is perfect; the child can pick up crumbs from the floor, and can see the normal distance. The right cornea is also clearing, and we are hopeful that in time we may by an iridectomy restore full vision to the eye.

We report this case on account of the extreme rarity of preservation of sight in this fortunately rare and dreadful disease.

**A CASE OF CUT THROAT, IN WHICH ALL THE
CAROTID ARTERIES AND ALL THE JUGULAR
VEINS ON ONE SIDE WERE LIGATURED:
PERFUSION OF SALINE SOLUTION:
RECOVERY.**

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J. E.,¹ aged 45, was brought on a police ambulance to the infirmary on October 5th, 1894, having attempted suicide half an hour before. We were conducting the out-patient clinic at the time, so there was no more delay. He was unconscious,

Fig. 1.

deathly white in colour, and pulseless; the lower jaw spas-

¹ The patient was shown at the Liverpool Medical Institution, Dec., 1894.

modically dropping, with feeble inspiratory attempts. There was a deep wound in the left side of the neck (produced by a penknife). The sterno-mastoid and omo-hyoid muscles were divided, the internal jugular vein was cut through, its cut ends were collapsed and three-quarters of an inch apart, the common carotid artery was cut into, but not divided. The

Fig. 2.

Fig. 3.

thyroid cartilage was notched, and the external and anterior jugular veins severed. The perfusion apparatus and saline solution was sent for. Clamp forceps were immediately applied to the cut vessels, and one on each side of the aperture in the common carotid, from which a small spurt of blood, certainly not half a teaspoonful, was jerked out.

The left median basilic vein was exposed by an incision, to which the patient did not object, being "too far gone," and 20 ounces of warm saline solution slowly perfused. An ordinary glass syringe with a capacity of 5 ounces was used, with india-rubber tubing attached to a cannula in the vein. The effect was most marked. After 7 ounces he took a short, distinct inspiration, at 10 ounces a deeper one, and his radial pulse was now felt beating feebly. After 15 ounces his breathing became regular and deep; at 18 ounces he opened his eyes, but did not appear to be conscious. The clamped vessels were now tied with catgut, the wound cleansed with carbolic acid lotion, and dressed with cyanide gauze.

Thus far the treatment had been carried out on the ambulance, elevated at the foot. He was now wheeled to bed, surrounded by hot water bottles, and the foot of the bed elevated 18 inches. The house-surgeon, Mr. McCormack, accompanied him, and remained by his side until we saw him an hour later, when he had sufficiently recovered to answer to his name, when called loudly, although he did so in a very squeaky voice. He rapidly improved in condition until October 27th (the twenty-second day), when a violent hæmorrhage occurred, preceded a few hours previously by a small trickle, easily controlled by pressure.

The house-surgeon, assisted by his colleagues, at once opened up the wound, found blood oozing from the distal ends of the carotid and jugular, which were promptly clamped. My colleague, Mr. R. A. Bickersteth, who was in the infirmary, arrived in time to apply ligatures to the common carotid, which was not sound; this necessitated search for the internal and external carotid arteries, which were tied, and the internal jugular with a small branch entering it. The patient was very collapsed after this, but quickly rallied, only to suffer from another hæmorrhage nine days later (November 5th) from the internal carotid artery. The house-surgeon, Mr. T. H. Agnew, applied sponge pressure until our arrival, when on removing it no bleeding occurred, so we decided this time to rely on pressure, a sponge well sprinkled with iodoform under cyanide gauze, and a figure-of-8 bandage of elastic webbing around the forehead and neck. A quart of hot water was injected into the rectum, all of which was absorbed, and acted most beneficially in reviving him. This dressing was removed in two days, and cyanide gauze only, used.

From this time he made a slow recovery and was discharged, but returned with a small sinus in the lower part of the neck, in which we found a catgut ligature; it was removed, and the wound quickly healed.

The result of all this interference in detail is found to be: weakness of the sterno-mastoid, paralysis of the trapezius owing to division of the spinal accessory in the posterior triangle of the neck; paralysis of the deltoid, due to injury of the brachial plexus; paralysis of the left vocal cord, due to division of the left pneumogastric; paralysis of the left hypoglossal nerve and a few filaments of the facial; division of the left sympathetic, evidenced by contracted fixed pupil and diminution of palpebral fissure; and, finally, when he coughs, a distinct hernia of the left lung into the root of the neck. Put thus in detail the list looks formidable, but the only symptom that causes any inconvenience to the man is the weakness of the shoulder, which necessitates him doing light labour, of course, at less remuneration than his former employment. We do not feel justified in endeavouring to reunite any of the severed nerves in such a cicatrised neck.

We cannot too highly praise the assistance rendered by Mr. McCormack and Mr. Agnew, house-surgeons, on whom, of course with their colleagues, the success of the case really depends for their prompt treatment of the secondary hæmorrhages, which might easily have proved fatal in less capable hands. The case is interesting as an example of what some patients can recover from. It seems with many important physiological points, and, as far as we can gather, the man has not altered mentally in the slightest.

The photographs were taken in May, 1895,

Summary of Treatment.—October 5th. Ligature of common carotid in two places, 3 and 4 (Fig. 1). Ligature of internal jugular in two places, 1 and 2 (Fig. 1). Ligature of external and anterior jugular. Perfusion of 20 oz. saline fluid. October 27th. Secondary hæmorrhage; attempted ligature of common carotid, 5 (Fig. 1). Ligature of external carotid, 9 (Fig. 1). Ligature of internal carotid, 8 (Fig. 1). Ligature of internal jugular and branch, 6 and 7 (Fig. 1), by Mr. R. A. Bickersteth. November 5th. Hæmorrhage from internal carotid treated by packing and pressure. Injection of 2 pints of warm water in the rectum.

THORACOPAGOUS MALE TWINS WITH A COMMON HEART: TRANSPOSITION OF VISCERA IN ONE TWIN.

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On May 2nd I attended Mrs. A. during her first confinement. On my arrival at 2.30 p.m. the nurse informed me that the pains came on at 4 a.m. on April 30th, but were not sufficiently bad for her to be sent for until 8.30 a.m. on May 2nd. The pains at that time came at intervals of about every ten minutes, and the membranes had ruptured between 10.30 and 11 a.m. The pains becoming more frequent and stronger I was sent for at 2 p.m.

I found the os uteri well but not fully dilated, and the head presenting. The pains were strong and forcible, coming on every three or four minutes.

In a short time the os became fully dilated, the head coming down at each pain, but receding in the interval in such a manner that I came to the conclusion there was some obstruction from above which prevented it descending, as the pelvis was capacious and the pains very strong and expulsive. Shortly after 4 p.m. I applied the long forceps, and with great difficulty delivered the head, and then, with much trouble, got down the arms and shoulders. Directly the second arm was delivered a third arm shot down; then I

found I had to do with connected or interlocked twins. Finding it impossible to deliver the woman unaided I procured the assistance of my partner, Dr. Fuller. On his arrival he took the arms and shoulders, already outside, of the first infant, which presented and bore it well back, giving it a twist so as to bring the body in the oblique axis of the pelvis. I at the same time pulled on the other arms that protruded. By these means the first infant was soon delivered, the buttocks coming out under the arch of the pubes, shelling out as it were. The second child quickly followed, the breech coming first. By my traction on the protruding arm it probably lessened the tension of the band between the two infants, and so allowed us to hook out the first. The placenta (there was one placenta and only one umbilical cord) followed