chorea-like movements of the shoulders, and rather extreme convulsive jerking of the left angle of the mouth in falling into sleep, also deep sighing and moaning: this has been more observed of late. She never awakes spontaneously, nor is she ever awakened by any ordinary disturbance, or even by severe concussion, or painfully pinching or pricking within limits. She has been lifted off her chair and roughly shaken without being awakened. The only thing that can be counted on to awake her is to speak her name into her ear, or make a loud noise or whistle close to her ear. She used to be more easily awakened than now: a loud sound at a distance, as whistling or clapping of the hands, succeeded at first in arousing her, but not now. Loud sounds disturb her sleep, but do not awake her; even thunder, which is very disturbing in its effects on her when awake, does not disturb her sleep. When she is awakened, she looks up startled and confused, and looks about for an instant as if collecting herself. She is not conscious of anything during sleep, but has been suspected of being conscious of words spoken by others during her sleep; but this has not been verified. Frequent slight whinnings and restlessness occur during sleep, as if unhappy, but she appears unconscious of them, or of any impression to cause them. In sleep, the pupils are widely dilated, the pulse is not affected by sleeping or waking, breathing is perfectly calm, and her colour does not change.

From the beginning of her illness up to the present time, she has always been perfectly intelligent, and can carry on a conversation with spirit; occasionally reads books and the newspapers, writes letters, and does fancy work. Her memory is not impaired; remembers what she reads perfectly well. In her disposition she is amiable, good-tempered, equably minded; has never any paroxysms of grief or anger; feels her position keenly; is easily excited; is rather sensitive, and does not like being seen by strangers; has not had hysterical symptoms for at least two years.

Her bodily health has been pretty fair all through her illness. At first, she was stout and of good complexion, but latterly she has lost flesh, is paler, and not so strong; walks with a halt, and prefers to lean on a person's arm when walking. Pulse 90 to 100. The bowels are constive; never moved except by medicine. The urine has never passed involuntarily; it has never required to be drawn off, but accumulates during sleep; never awakens her by necessity of discharge, but gives rise to symptoms of distress. Menstruation has been regular all through her illness; no uterine derangement; appetite poor; food is not taken heartily, but not refused or vomited; no gastric derangement; tongue white, and breath mawkish; no fever at any time; extremities always cold, but no sensation of chill or shivering; she has had occasionally, however, a feeling of a creeping sensation up the back, apparently formication.

As regards remedies used, the disease assumed so many different phases that the treatment had to be changed from time to time. At the beginning, the remedies given were such as are usually administered for chorea: notably bromide of potassium, oxide of zinc, valerianate of zinc, ammonia, quinine, strychnia, and several preparations of iron. Antispasmodics were given for the hysterical symptoms while they existed, with alteratives and purgatives. To produce sleep and give rest, and so stop the constant vibration, chloral hydrate was administered, also opiates and the hypodermic injection of morphia. Blisters were applied to the nape of the neck and down the spine; the head was shaved, and blistered over the seat of pain. The bromide of potassium was given at several times—at one time in very large doses, either alone or combined with strychnine; but its use had to be stopped, owing to misgivings as to its effect on her health. Iodide of potassium and phosphorus were also administered. Tonics of quinine, strychnine, and iron, mineral acids, with bitter infusions, have been had recourse to of late in order to restore her strength.

CASE OF AORTIC ANEURISM SUCCESSFULLY TREATED BY THE DISTAL LIGATURE.

By THOMAS ANNANDALE, F.R.S.E.,

Surgeon to the Edinburgh Infirmary, and Lecturer on Clinical Surgery.

R. B., AGED 62, was first admitted under my care in August 1874, on the recommendation of Dr. Wilson of Motherwell. The patient had suffered from symptoms of thoracic aneurism for about six months; and, as these were steadily increasing in severity, he was advised to come into the Infirmary.

On admission, there was a distinct aneurismal tumour, pulsating strongly, and passing up from behind the clavicle and sterno-clavicular articulation into the neck, as far as the cricoid cartilage. The trachea was displaced towards the left side by the tumour, and the inner half

of the clavicle and its articulation with the sternum were pushed forward by the portion of the tumour under them. There was a well-marked *bruit* to be heard on all sides of the swelling, and there was dulness on percussion over a considerable area, corresponding to the situation of the thoracic part of the tumour. In addition to these symptoms, the patient had a constant irritating cough, pains shooting up into the head, want of sleep, and he was losing flesh markedly. He was ordered to keep in bed; and iodide of potassium, in twenty-grain doses, was given three times a day. After one month of this treatment, he left the hospital with his symptoms somewhat relieved, and he was advised to continue the iodide of potassium.

On February 8th, 1875, he was again admitted into my wards, as his symptoms had returned and become more troublesome. He had been unable to continue the iodide regularly, owing to the expense of it. An examination of the tumour showed an increase in its cervical portions. It had not only spread higher up, but it had also spread laterally so as to overlap the site of the subclavian artery. The upper portion of the tumour felt softer; and it was this portion which seemed to be increasing most rapidly. After carefully considering the circumstances of the case, and determining that pressure on the right carotid artery, immediately above the cervical portion of the tumour, very much diminished the aneurismal pulsation, it seemed to me a favourable opportunity for practising the distal ligature. The position of the tumour did not permit the subclavian artery to be ligatured; but there was just sufficient room to secure the common carotid above the cervical portion of the aneurism.

The patient having given his consent, I, on the 2nd of March, ligatured the common carotid immediately under the omo-hyoid muscle, which was drawn upwards, so as to reach the vessel. The internal jugular vein was unusually large and dilated; and some care was necessary to avoid injuring it, as it completely overlapped the artery. The operation was performed under the carbolic spray, and the ligature used was prepared catgut. The immediate effect of the ligature was to almost stop the aneurismal pulsation, and to convert the strong pulsation into a kind of quivering motion. Not the slightest local or constitutional disturbance followed the operation; and the wound was healed on the 17th. A week afterwards, the patient was out of bed. The day after the operation, the patient expressed himself as greatly relieved. He no longer himself felt the pulsation in the tumour, and the pains in his head and neck had disappeared. The pulsation in the aneurism was felt to be very feeble, and the tumour itself was decidedly smaller.

The patient left the hospital a few weeks afterwards, his symptoms continuing in the same improved condition, and the tumour gradually becoming firmer to the feel.

From time to time, the patient returned from the country to show himself, and his state on September 27th was as follows. His general health was good, and he had no pain or other uneasiness. He could stoop freely without giddiness, and could go up and downstairs easily. The tumour had continued to diminish in size, and its cervical portion was fully half an inch lower in level than before the operation. The whole tumour had become much flatter, and also firmer to the touch. On placing the hand over it, only a very feeble pulsation could be felt, but the pulsation was slightly stronger over the upper part of the cervical portion. A *bruit* could still be heard on all sides of the tumour, but it was not nearly so loud as formerly.

REMARKS.—Although it cannot be said that the aneurism in the case reported was completely cured, there can be no doubt as to the great relief which followed the operation. The case, therefore, appears to me to furnish additional evidence in favour of the distal ligature in suitable examples of otherwise incurable aneurisms, and it also tends to confirm the opinions of Mr. Holmes* and Mr. C. Heath,† who have so ably written on the subject.

From my experience in other cases of thoracic and cervical aneurism, and from an observation of cases treated by my friend and colleague Dr. G. Balfour, I can testify to the value of iodide of potassium in relieving the symptoms and promoting coagulation in this disease; but I am inclined to express the opinion that, should a fair trial of this drug fail to give complete relief to the symptoms, the distal ligature of the carotid should be employed, provided the case be a suitable one for the operation. The test of the suitability of the case for operation being the effect which temporary pressure on the distal portion of the carotid has on the aneurismal pulsation. If such pressure diminish the aneurismal pulsation, and should there be sufficient space to ligature the common carotid above the tumour, then I think the case is a proper one for operative interference. I also think with Mr. Holmes that operative interference

* *Lancet*, July 13th and August 31st, 1872.

† *On the Treatment of Intrathoracic Aneurism by the Distal Ligature.*

should, in the first instance, be confined to ligature of the carotid, ligature of the third part of the subclavian being resorted to if advisable at a future stage in the progress of the case.

The case reported further illustrates the value of the antiseptic catgut ligature and other antiseptic precautions, the combined use of which has, in my opinion, removed all the most serious risks in connection with the ligature of arteries.

ON LIGATURE OF THE COMMON FEMORAL ARTERY; AND ESPECIALLY ON LIGATURE BY AN ANTISEPTIC MATERIAL.*

By OLIVER PEMBERTON, F.R.C.S.Ed.,

Surgeon to the General Hospital, and Professor of Surgery in Queen's College, Birmingham.

THREE years since, when I had the honour to deliver the Address in Surgery at our Birmingham meeting, I mentioned a case of aneurism in Scarpa's space, in which, in preference to applying a ligature to the external iliac, I tied what I presumed to be the common femoral an inch below Poupart's ligament. I did this with an ordinary hempen ligature, and left the wound completely open.

So far as the treatment of the aneurism was concerned, the case did perfectly well; but, when I came to dissect the arteries involved—death having taken place from causes wholly removed from the aneurism—I found the circumflex ilii, epigastric, and profunda femoris given off together; that is, at opposite points of a line drawn from the main trunk a little above Poupart's ligament; the point of the ligature being five-eighths of an inch below these vessels, and the tube of the artery intervening being firmly plugged.

Now, although it is obvious that I really tied here the superficial, not the common femoral, owing to the abnormal origin of the profunda, yet the case affords an overwhelming proof of the fact that an abiding coagulum can form in the immediate vicinity of almost any number of branches on the proximal side of a ligature. If this be so, the chief ground for discarding the operation of ligature of the common femoral disappears.

I wish, however, to show that it is the duty of the surgeon to choose this proceeding in preference to tying the external iliac: a duty that becomes imperative when it is based on the knowledge that he submits his patient to less risk of danger to life from the mere operation; and, what is of equal importance, that he has yet a favourable artery to tie in case of failure. I am fully aware that no mean surgical authority—Mr. Erichsen—lays down the rule of surgery, "That in all cases of aneurism above the middle of the thigh, and in which sufficient space does not intervene between the giving off of the deep femoral and the upper part of the sac for the application of a ligature to the superficial femoral, the external iliac should be tied, unless compression can be successfully employed". From this I dissent, and, as I have already said, because the very reason Mr. Erichsen assigns for his judgment—namely, that the liability to secondary hæmorrhage is almost a necessary consequence of the operation, the shortness of the trunk rendering it necessary to tie the artery in close proximity to such large collateral branches that the arterial coagulum will not readily form—does not, in my opinion, constitute a sufficiently valid reason.

And now I will ask to place on one side for a moment the case I have submitted, and inquire whether this source of danger is not diminished, or even entirely removed, by the use of a ligature composed of antiseptic materials.

CASE.—A strongly built Indian soldier, aged 33, non-syphilitic, came under my notice at the General Hospital, Birmingham, in May 1874, with a rapidly increasing aneurism of the left superficial femoral artery. Of very slow growth in its early history, its character was now changed. Reaching to within three to four inches distance from Poupart's ligament, it compassed a space of six inches in extent, was largely raised above the surrounding parts, and was accompanied by strong visible pulsation, by oedema, and severe pain.

After a few days of carefully applied pressure at the arch had proved of no avail, on May 26th I tied the main artery and what should be the common femoral, an inch below Poupart's ligament. I used an ordinary antiseptically prepared catgut ligature, tying the vessel by a single loop, and finishing by a double one. The ends were cut off short, and the wound closed. The contents of the aneurismal sac remained fluid for a long time; and it was not until nearly three months had elapsed that everything was absorbed and the limb restored.

* Read before the Surgical Section at the Annual Meeting of the British Medical Association in Edinburgh, August 1875.

Now, neither at the operation nor subsequently did I follow out the antiseptic method of treating the wound; that healed in the ordinary way by supuration and gradual repair. I simply desired to permanently close the artery at a given point without cutting it through; and this, I submit, was effectually and safely accomplished, even in the midst of supuration.

I am not aware of any previous instance in which an animal ligature has been applied to the common femoral, with the exception of Professor Lister's case referred to by him in his Address to the British Medical Association at Plymouth (August 1871), where, in the face of a diffused popliteal aneurism, he tied what he expected to be the common femoral with a catgut ligature. The vessel, at any rate, as he informs me, was ligatured about the most frequent situation of the origin of the profunda—making the case all the more striking, as the only result he would expect from the application of a silk ligature in such a situation would be secondary hæmorrhage.

The principle involved in tying arteries in their continuity by means of animal ligatures may be still on its trial; but I will be bold enough to assert "that the fate or behaviour of a given antiseptic catgut ligature, applied to the continuity of an artery", will yet be foretold with confidence as to the favourable result. And in this I appear to be more sanguine than Mr. Maunder states himself to be in his recent Lettsomian Lectures on the *Surgery of the Arteries*.

It is, I think, to be regretted, that I was unable to place my recent experience in Mr. Holmes's hands before he summed up his views on ligature of the common femoral in his lectures at the Royal College of Surgeons last year, as I intended doing, thereby strengthening the conclusion at which he arrived: that there was no just cause to banish this operation from surgical practice. The cases of Ramsden, of Mott, of Porter, Macnamara, Colles, and myself, led him to this view with the use of the hempen ligature. Surely the consideration of Professor Lister's case, and the one I now for the first time lay before the profession, should remove from his mind his remaining objection, based on the uncertainty of the place of origin of the profunda: a circumstance, I venture to think, of no real importance, when the canal of the artery is not cut through.

TWO CASES OF ANEURISM, ONE OF THE CAROTID AND ONE OF THE FEMORAL ARTERY, SUCCESSFULLY TREATED BY THE WIRE COMPRESS.*

By JOHN DIX, M.R.C.S., Hull.

THE wire compress, a substitute for the ligature, was first used by me in September 1860, just fifteen years ago, and was brought before the profession by a paper read at the Royal Medical and Chirurgical Society, January 13th, 1863. An abstract of this paper, with the discussion thereon, appeared in the weekly medical journals: it was published *in extenso* in the *Edinburgh Medical Journal* of September 1864, and reproduced in Braithwaite's *Retrospect*. The procedure was then looked upon as a novelty, and there was the usual dispute about priority of invention. The late Sir James Simpson afterwards settled this question for us by showing that the idea and the practice were more than three hundred years old—older, in fact, than the ligature—and that the only change from the method of the surgeons of the fifteenth century, was the substitution of wire for the thread of hemp or silk used by them. So true is the saying of Liston, that "young surgeons meet with many anomalous cases; they also rediscover many things".

It seems that this practice was superseded by the ligature, which was invented by Ambrose Paré about the year 1564; yet it was not altogether forgotten or laid aside, as mention of it crops up here and there in the surgical writings of various old authors, both English and foreign. Its revival in modern surgery is clearly due to the impetus given to surgical ingenuity by the introduction of acupressure by Sir James Simpson and his writings thereon, which so rudely shocked the faith of surgeons as to the perfection of the time honoured ligature.

But the long needles as at first used were by no means pretty, and many who thus made trial of acupressure, while recognising the soundness of its principle, could not shut their eyes to its defects, and so cast about for other methods of applying it. Hence we soon had before us various kinds of needles and varying modes of using them. Hence, also, arose this process, which I have called the "wire com-

* Read before the Surgical Section at the Annual Meeting of the British Medical Association in Edinburgh, August 1875.