not state how much hæmorrhage there had been six or seven years before. There were no tubercles in the lung nor disease of the heart. This case, then, must be classed amongst those of aneurism which lasted more than one year after the occurrence of hæmoptysis. The point of his (Dr. Gairdner's) paper was to show that the occurrence of persistent, but not great, hæmoptysis with stridulous breathing was a diagnostic mark of the existence of aneurism. He contended that when such symptoms were present, and the lungs and heart were sound, it might be almost positively concluded that aneurism was present. He referred to two cases which had occurred to him some years since, in which these symptoms were present. In one, the disease was so obscure that tracheotomy was performed; in the other, Dr. Horace Green, who saw the patient, advised the application of caustic, "as there was ulceration of the epiglottis." Both cases terminated fatally, both being cases of aneurism; and in the latter instance the epiglottis was perfectly healthy.

A CASE OF POPLITEAL ANEURISM SUCCESSFULLY TREATED BY FLEXION OF THE KNEE-JOINT.

BY ERNEST HART, ESQ.,

SURGEON TO THE WEST LONDON HOSPITAL, AND NORTH LONDON OPHTHALMIC INFIRMARY; LATE DEMONSTRATOR AT ST. GEORGE'S HOSPITAL SCHOOL.

(Communicated by ALEXANDER SHAW, ESQ., Treasurer.)

Mr. Hart had brought the case under the notice of the Fellows of the Royal Medical and Chirurgical Society, under the impression that they might be interested in the successful treatment of so formidable a disease as popliteal aneurism by the simple flexion of the knee-joint.

J. S.—, aged forty-one years, consulted him in September, 1858, having a popliteal aneurism in the right ham. It was globular, of the size of a small apple, and situated at the lower and outer part of the popliteal space. It had a full beat, but was not very near the surface. Placing the patient on the sofa, and baring the leg in order to make a careful examination of the tumour, Mr. Hart found that its pulsation was affected by the angle at which the leg was bent upon the thigh, and that when very complete flexion was effected, its thrill almost wholly ceased. Concluding that in this position the course of the blood through the tumour was greatly retarded, he conceived the hope of effecting the cure of the aneurism by the deposition of active clots, if the leg could be retained for a sufficient length of time in the bent position. After a week's preliminary rest, treatment was commenced by bandaging the leg from the foot to the knee (not covering the tumour), thoroughly flexing the leg on the thigh, and retaining it in that position by the application of a stout roller. He was a thin, wiry man, and the flexion produced no inconvenience to him at the time. He passed a better night than during the previous week, when severe pain had been present in the aneurismal sac. What pain or annoyance was complained of during the treatment was referred to the knee-cap, but it was very trifling, and "barely deserving to be called pain." The tumour was examined on the morning of the third day (about forty hours after flexion was enforced), and considerable solidification had occurred. On the fifth day, the tumour was hard and solid, and neither pulsation nor thrill could be detected. The leg was lightly attached to the thigh at a right angle. On the seventh day, the patient was allowed to move about, the foot being slung. On the twelfth day, the leg was completely straightened, and the patient walked on it with ease, limping from stiffness at the knee-joint consequent upon confinement. Six weeks subsequently, the tumour was hard and firm, and much smaller. After three months, it was barely perceptible, and there was pulsation in that part of the artery. The patient was seen at various stages by the author's friends, Mr. White Cooper, Mr. Coulson, Mr. Holmes, of St. George's Hospital, Mr. Flower, of Middlesex Hospital, and Mr. Buxton Shillitoe.

The treatment by flexion in this case was perfectly and immediately successful. It was unattended with any difficulties, it offered no inconveniences, and was not followed by any other than satisfactory results. The case, however, was one particularly well suited for the essay of such a plan of treatment. The patient was not stout, which renders flexion difficult; nor was he aged, which makes it painful. The tumour was of average size and of average prominence; when the knee was bent, the aneurismal sac was below the line of flexure. These he believed to be all favourable circumstances. Cure was evidently effected in this method by the retardation of the current of blood, and the consequent deposition of active clots in the sac—the only manner in which satisfactory cures could be anticipated. This result was probably effected by the combined influences of pressure on the sac by the surrounding

fascial and muscular tissues, and acute flexion of the artery. In so far as it was due to pressure, it appeared to be a return to the old method of treatment by direct pressure, but was free from the inconveniences of the screw and pad, which were open to the reproach of occasioning gangrene of the skin, rupture of the sac, and other accidents. Its simplicity and its success in this case appeared to strongly recommend it for further trial. If it were not always successful, there was not any other method free from the same objection; and there seemed reason to hope that the principle might admit of efficient application to a number of cases in which aneurismal tumours were developed opposite to the joints of the limbs.

REPORT OF A CASE OF POPLITEAL ANEURISM SUCCESSFULLY TREATED BY CONTINUED FLEXION OF THE KNEE-JOINT.

BY ALEXANDER SHAW, ESQ.,

SURGEON TO THE MIDDLESEX HOSPITAL, ETC.

This communication consists of the narrative of a case of popliteal aneurism, cured by continued flexion of the knee-joint, according to the method described in the preceding paper by Mr. Hart.

The patient, aged thirty, first perceived a pulsating tumour in the left ham a week before his admission into the Middlesex Hospital. It was of the size of a lemon, occupied the centre of the popliteal space; was easily compressed; the pulsation was strong, and there were other signs of its being a recent aneurism. On December 1st, the knee was secured in the bent position by a band brought round the foot and thigh, and fixed near the hip. The immediate effect of the flexion was that the patient ceased to feel the beating of the tumour, and that on inserting the oiled finger into the flexure behind the knee no pulsation could be discerned. On the fourth day, when the limb was unbound, the tumour was found to have lost about a third of its original size; its walls were thicker and denser, the force of the pulsation was considerably diminished, and the sac had receded more deeply into the popliteal cavity. Gradual improvement continued to take place. Between the third and fourth week from the commencement of the treatment the sac had become greatly reduced in size; its walls appeared nearly solid, and the pulsation was so faint that it was expected at each day's visit to find it extinct. The treatment was varied by occasionally undoing the strap, which confined the knee, for several hours together; but, owing to the stiffness caused by the long continuance of the flexion, the position of the joint was not much altered by the relaxation. It was not till the thirty-eighth day that the pulsation in the tumour altogether ceased. The sac was at that time about the size of a walnut. The patient gradually recovered the power of extending the joint. On the fiftieth day he could walk with only a slight halt, and on the fifty-sixth day he was discharged. During the first ten days the patient complained of the pain, as well as the irksomeness, of keeping his knee constantly bent; and for a slight swelling of the joint a lead lotion was applied. Afterwards he made light of the inconvenience, and he never at any time asked to have the belt relaxed.

At the close of the case, the author offered a few brief remarks on the principle on which the cure was effected, and, in illustration, added the observation that, by extreme flexion of the knee joint of a sound limb, the force of the current of blood through the popliteal artery can be weakened to such a degree as to cause stoppage of pulsation in the tibial arteries.

Mr. FERGUSON eulogized the papers read, and said he regarded the proceeding described by Mr. Hart as a valuable addition to the practice of surgery. He spoke of the value of pressure generally in the treatment of aneurism, and also of "manipulation"—modes of treatment which he thought would set aside, in many instances, the necessity for the knife. In the plan pursued in the cases before the Society, there might be failures, but this was no reason why we should discard the operation, but should rather encourage us to persevere to determine the real value of the proceeding. The plan was not altogether novel, for it had been tried three or four years since in King's College Hospital. One of his house-surgeons had ascertained, in a case of popliteal aneurism, that when the leg was flexed upon the thigh, the pulsation in the tumour ceased. The aneurism was of the size of the fist, and was treated by pressure in the groin, and by flexure of the leg upon the thigh. This was persevered in for some time, but without benefit. The man, being impatient of treatment, left the hospital, and died of some other disease. To show the influence of position in certain cases of aneurism, he related a case of that disease in the popliteal space, in which the employment of pressure gave encouraging, but tardy, results. It was found in this case that

on extending the leg to its full degree, after the employment of pressure, all pulsation in the tumour ceased.

Mr. BIRKETT briefly referred to three cases of aneurism treated by pressure which had come under his notice in Guy's Hospital. In one case, ordinary pressure in the groin was applied; then pressure by flexion. Neither did good; but it must be admitted that they were not fairly tried. The femoral artery was afterwards tied, and the patient recovered. In the second case ordinary pressure was applied at first with success; but suddenly the tumour became much enlarged, the femoral was tied, and the patient did well. In the third case, the patient, a man, had an aneurism in the right popliteal space. Pressure was tried, and in fourteen days he appeared well. The tumour contracted, and felt like a small hard ball. Flexion was then resorted to, but not persevered in, and ordinary pressure was again employed. The aneurism, however, gave way, and the femoral had to be tied. The man subsequently had a small aneurism in the left popliteal space: he would not submit to flexion, so the femoral vessel was secured.

Mr. SAVORY said that these cases were especially interesting and instructive in their relation to the physiology of the blood-vessels. It was familiarly known that a transverse wound of an artery gaped widely, and that when an artery was completely divided the ends retracted. Yet these important facts had seldom received more than a passing notice. They had never been explained. To what was this retraction due? The muscular tissue was in no way concerned in it, for it occurred at a long period after death, as well as during life. Neither would elasticity alone explain it. Another condition was required, and that was tension. The arteries were elastic tubes, always tense; so that, when divided, by no management of posture or position could the retracted ends be brought into apposition. The extent of their retraction was a measure, then, not of their elasticity, but of their tension. This constant state of tension was obviously connected with their purpose; by it their patency, under every variety of movement and position, was secured. But this rule had its exceptions, and these were to be found at the knee and elbow joints. At these parts, when an artery was divided, extreme flexion would bring their ends into apposition; but in this position, and for this very reason, the course of the vessel was interrupted; the course of the blood through it was impeded; the pulse ceased in the limb beyond. Thus he conceived was explained the principles upon which the cure of aneurism by this means was accomplished. It was not due to pressure in the sense in which that term had been employed. It was due to the fact that the circulation through the artery at a short distance on the distal side of the sac was arrested; so that, as far as the principle was concerned, it would probably succeed, whatever part of the popliteal space the aneurism occupied. Now, in connexion with this interesting fact—the arrest of the current through the artery by extreme flexion of the limb—Mr. Nunn, in some observations on the arrangement of the arteries of the limbs, recently published, had alluded to the remarkably free anastomoses which existed around these joints. They were clearly for the purpose, as he said, of compensating for the occasional interruption through the main channel. He (Mr. Savory) added, that this plan of treatment appeared free from one grave objection to the ordinary treatment by compression—namely, of interfering with the venous circulation. For although in extreme flexion the current through the main vein was interrupted also, yet here there was also an abundant superficial venous anastomosis around. The veins, like the arteries, were elastic, and, to say the least, were equally tense.

Mr. SHAW had not heard of Mr. Fergusson's case. Perhaps the reason why his own case and that of Mr. Hart did so well, consisted in the fact that both the subjects of them were young. What were the ages of Mr. Fergusson's and Mr. Hilton's patients?

Mr. FERGUSSON.—My patient was sixty.

Mr. BIRKETT.—Mine young.

Mr. SHAW said that Mr. Moore had also treated a case by flexion, but the plan in this instance did not succeed, owing probably to the patient being an elderly man, and the tumour of unusually large size.

MILK CHARGED WITH MEDICINAL PROPERTIES.—M. Labourdette has instituted a series of new experiments, which would prove that, with due precautions, cows might be made to take various substances—such as soda, iodine, &c., with which the milk would become charged. The mammary secretion of these animals might thus be used either with children, or persons of irritable stomachs.

Reviews and Notices of Books.

An Examination of the Question of Anæsthesia, arising on the Memorial of Charles Thomas Wells, presented to the United States Senate, &c. Prepared for the Information of a Select Committee by the Hon. TRUMAN SMITH, U.S. Senator. pp. 135. New York. 1858.

THIS is a petition, or statement, presented on behalf of the widow and child of Dr. Horace Wells, to a committee of the United States Senate, specially appointed to consider the claims of the three candidates, not merely for the honour of originating the practice of anæsthesia, but for the very substantial reward, also, of *one hundred thousand dollars* (£22,500). In the introduction we are let into a few of the secrets of the management of these State rewards, which we will notice before investigating the rights of the several claimants.

In December, 1851, a petition from W. T. G. Morton was presented, praying for reward as the discoverer of etherization, and a few days after, an opposition petition from Chas. T. Jackson. Both these were referred to a committee, which made its report, recommending that the above reward should be paid to Morton. The writer of this work, however, being a member of the Senate, and acquainted with the claims of Horace Wells, strongly opposed the motion, and it was ultimately negatived by 28 to 17. "This put an extinguisher on W. T. G. Morton for the time being;" but in the next session, a petition on behalf of the late Horace Wells having been presented and referred, the committee, not being able to come to any definite conclusion as to the matter, recommended that the whole business should be argued in one of the Courts of Law; but this was negatived by the House, and the affair seems to have been dropped, the reward never having been awarded at all.

The worthy senator next proceeds to vilify Morton, by showing that he endeavoured to suborn the members of the Senate by the seductive influences of champagne, cigars, and oyster suppers, having induced the secretary of a railway company to rob his employers to the amount of 50,000 dollars, in order to supply his wants. With this part of the business, however, we have nothing to do, but pass on to the claims put forward in the numerous affidavits in behalf of Dr. Horace Wells.

There can be little doubt that Horace Wells was the first to take into serious consideration, and reduce to practice, the suggestion of Sir Humphry Davy as to the feasibility of producing anæsthesia by nitrous oxyde gas. He appears to have entertained this notion as early as 1840, but to have done little in the matter until 1844, when a Mr. Colton having exhibited the laughing gas in the city of Hartford, Wells procured a supply from him, and administered the gas in several cases with perfect success. That he failed in his first demonstration of the effects of the gas at Boston, and ultimately perished by his own hand, are facts well known; but it is, perhaps, not so well known that he continued to give the gas with success, and that under its influence, a leg was amputated, and a fatty tumour removed so late as January, 1844—i. e., a short time before his death. A remarkable affidavit from Dr. Marcy, of New York, goes to show, that shortly after Wells' first discovery, he (Marcy) suggested the use of sulphuric ether, and actually administered it in one case. Both he and Wells, however, made up their minds that the gas was preferable, on the ground that "the constituents of the gas were more nearly allied to the atmospheric air than those of ether vapour," and they therefore abandoned the use of the ether. If this be so, it certainly would appear that Morton, who was fully aware of all Wells' proceedings, did nothing very original, when, in 1846, he used ether at the suggestion of Dr. Jackson, although to him is certainly due the credit of bringing that agent prominently under public notice.

The question to be solved seems to be, as the author remarks, "Which of these parties was the first to conceive the