the nervous habit, but without that excessive degree of sensibility which characterizes the latter, may be regarded as in possession of the sanguine habitus.

Besides these portraits of habitus and dispositions, we meet with infinite gradations of mixtures of them.

If we compare the nervous with the scrofulo-phthisical habit, as described, we shall find the most obvious the mixture of both in one individual; taken physically, these habituses, as they present themselves before our eyes, and according to great many analogies which we find between both, we must recognize an intimate relation between them. I am not able nor willing to trace tubercles of the lungs to the superabundant nervousity as a source; I state only the fact, as I observed it very frequently.

The same relation and affinity we find between that habitus which I described as the scrofulo-impetiginous and the rachitic. There is a condition of the body, very frequent between the 9th and the 18th month, with a large skull, large abdomen, flabbiness and weakness of the limbs, which either develops fully into rickets, or into impetiginous scrofula.

The position of the body of the child, in bed as well as in the arms of the nurse, is frequently indicative of the quality or local seat of disease. It is a long time since this was observed and regarded as a matter of significance by clever practitioners. I limit myself to mentioning the dorsal position as almost exclusive in transudations in the head, in typhus, in acute carditis and pericarditis, and acute peritonitis or enteritis. Dorsal, but with more or less lateral inclination, in acute affections of one of the lungs; we observe even, that in acute lobar hepatization the child keeps almost constantly the position on the affected side, and is prevented from laying on the healthy side by cough and dyspnoea. The position of pleurisy, however, is inconstant. I observed frequently the lateral position on that side which is opposite the one affected. In large transudations, on the contrary, I observed frequently a dorsal position, or inclined, over the healthy side. The most unsteady position we find in gastric disorder, or chronic abdominal affections; in abdominal glandular disease they lay frequently on the belly.

There are some very significative positions. If we find a child in the dorsal position, the head hanging backwards, with opened mouth, the lower extremities flexed in the knee, and negligently thrown outwards, the hands, or one of them, touching the genital organs; we may suspect a transudation in the brain.

The movements of single parts, automatic or convulsive, or weakness, or pain in moving them, or impeded movement by pain or contracture of that part, should not escape our attention. In young infants severe fits of eclampsy commence frequently with slight convulsive movements of the muscles of the eyes, or of the cheeks and mouth, by which the infant seems to smile, and causes, by this appearance, pleasure to the mother, who soon will be subjected to a dreadful deception. In children from seven years upwards, chorea commences, with slight irregular movements of

the head and the extremities, generally attributed in that stage of the disease merely to bad habit.

Temper, habitudes, and inclination.—The temper of the little patient must be valued, in any circumstance that we find the child fretful, or much inclined to cry. We mentioned, however, already, that the biliary habit is very seldom developed in infancy and early childhood, at least I regard this case as a rare exception before the eighteenth month. Consequently, if a little child is fretful, and cries frequently, we must closely inquire into the cause.

The habitudes of children depend much upon the method of their usual management, with which we must never neglect to make ourselves acquainted. Sudden changes in the regular habitudes, pleasures, or affections of the child, or some constant salient abnormalities in habitudes and affections, enable us sometimes to conclude upon the commencement or presence of certain affections.

I mentioned already, and bring it once more under your consideration, that none of all those objective symptoms of which I have given a short review, taken alone, has a constant and absolutely inherent diagnostic signification. I find it very useful to make that sort of analysis of single phenomena, but the art of diagnosis accomplishes its difficult task by clever comparison and synthetical composition, after the premised analysis of them.

CASE OF

POPLITEAL ANEURISM,

CURED BY PRESSURE UPON THE FEMORAL ARTERY.

By G. M. HUMPHRY, Esq.,

SURGEON TO ADDENBROOKE'S HOSPITAL, CAMBRIDGE.

Read at the Branch Meeting of the Association, at Ely, June 17, 1861.

WILLIAM MITCHELL, aged 24, from Wisbeach, admitted into Addenbrooke's Hospital, August 1st, 1849: in ill health, with anxious pained expression, sallow complexion, pulse 104.

The ham and lower-third of the inside of the right thigh occupied by a firm swelling, giving a circular measurement of eighteen inches and a half; the left limb, in a corresponding situation, giving only thirteen inches and a half. The swelling was most prominent a little above the internal condyle, and at the middle of the ham, uniformly firm, but communicating an indistinct sense of fluctuation. Its outline could not be clearly ascertained in consequence of an cedematous condition of the subcutaneous tissues. The integuments were natural, with the exception of a faint blush in places, and a few white starry spots, like cicatrices, which he said had appeared within the last few days. There was effusion into the knee-joint, raising the patella and still further distorting the limb. The part was exceedingly tender, and he suffered great pain in

the swelling, and agonizing pains shooting down the limb; the skin of the leg and foot feeling, to use his expression, as if it were being burnt in a fire. He was restless, incessantly turning about to find a more easy position. The limb below the knee was cedematous, rather cold, and devoid of sensation below the middle of the leg; he could not move the foot or toes. The femoral artery could be traced to the lower-third of the thigh, where the swelling began. No pulsation could be felt in the anterior or posterior tibial arteries. No pulsation whatever could be felt in any part of the swelling, nor was his severe pain in the slightest degree relieved, or the size of the swelling diminished by pressure upon the artery at the groin, though it was continued for several minutes, so as to prevent the passage of blood. A distinct bruit was audible over the tumour; and there was also a bruit, synchronous with the first sound of the heart, heard over the commencement of the aorta.

He was a sailor. Seventeen weeks before his admission he had been compelled to leave his ship in consequence of an attack of rheumatic fever, which continued severe for about five weeks. During the whole of that time he suffered a good deal of pain about the right knee, more particularly in the neighbourhood of the inner condyle of the femur. When the pain subsided in other parts it continued unabated in the knee. About this time he first observed the swelling, which began on the inside of the ham; it increased quickly and was attended with distinct beating, which he could see and could feel with his fingers. He was very clear upon this point, and said that several surgeons had examined the swelling and had perceived the beating within the last few days. It seemed probable, therefore, that the cessation of the pulsation was dependent upon some inflammatory changes in the aneurism or the surrounding parts caused by the journey to Cambridge.

He suffered acute pain all night in spite of fomentations and opium, and on the 2nd was still in great agony. The oedema had rather increased. No bruit or pulsation could be perceived in the swelling. Twelve leeches and fomentation applied, and a grain of morphia given at night.

3rd.—Less pain; swelling rather less tense; the bruit had returned; still no pulsation.

4th.—A further diminution of pain. The swelling softer and fluctuation more evident. Pulsation could now be distinctly seen and felt; but it was limited to the course of the popliteal artery, not being perceptible in any other part of the swelling.

7th.—The pulsation of the whole tumour being to-day quite decided and the bruit audible, there remained no longer any doubt as to the nature of the case; so we determined at once to commence treatment by pressure. The arch tourniquet (Santorini's) was applied a little above the middle of the thigh, and the common tourniquet at the groin; the latter being retained in place by a strap round the pelvis and another round the upper part of the thigh. Great pains were taken to stop completely the pulsation in the artery, and in the tumour, and it required con-

siderable pressure to do this. However, the tourniquets being used alternately, the object was attained continuously for several hours without much inconvenience to the patient; and after fifteen hours of effective treatment, the pulsation in the tumour had entirely ceased. Constant pressure was kept up for two days longer; afterwards the tourniquets were applied only at intervals. In three or four days, when the swelling had begun to diminish, he was greatly troubled with pains in the feet and toes. This was probably dependent on some change going on in the nerve consequent on the partial remission of pressure upon it as the aneurism decreased in size, for on August 30th the pain had nearly ceased. Still there was no sensation below the middle of the leg, and no power to move the foot and toes.

September 4th.—No pulsation or bruit. The size of the tumour decreases slowly. The movements of the knee are much more free

October 4th.—Has for sometime moved about the ward on crutches, swinging the right leg. Moves the knee boldly though not quite freely. The size of the swelling diminishes very slowly, the circular measurement being still 17 inches. It is soft and indistinctly fluctuating. Sensation exists over a greater space than it did, but he cannot move the foot and toes, which remain swollen. The femoral artery may be traced to the lower-third of the thigh. There is no pulsation perceptible in the tumour or in the tibial arteries. The oedema of the foot might prevent its being felt in the latter. Returned to his home.

In the course of the following winter he was again in the hospital for several weeks, on account of the paralytic condition of the foot, which continued, although the aneurismal tumour was smaller and soft, and pulsation had entirely ceased. Electricity was used, with some benefit, and he again went home. Some months afterwards he was attacked with inflammation of the chest, and died. Mr. Burnam, who attended him at Wisbeach, wrote me word that he had recovered the use of the limb, and that the swelling in the ham had almost disappeared before his death.

In this case the origin of the disease in the popliteal artery was clearly traceable to rheumatism. It is very seldom that such a cause can be assigned for the commencement of aneurisms in the extremities; the disease being usually attributed to an injury, a sprain, or to free movement of the part. Even in the thorax the diseases of the arterial coats that give rise to aneurism, are more generally dependent upon age or intemperance than rheumatism.

The extent to which the characteristic symptoms of aneurism were, on the patient's admission, masked by a tense inflammatory condition of the surrounding tissues deserves particular attention. At one time both pulsation and bruit were entirely absent, and pressure upon the femoral artery failed to produce any alteration in the swelling; indeed the swelling then resembled an abscess more than an aneurism, and it is certainly no wonder that mistakes in diagnosis should, under similar circumstances, have, in more than one case, led to

serious mistakes in treatment. As the inflammation and tension diminished, first the bruit and then the pulsation returned.

The cure by pressure upon the artery above the aneurism was effected in a shorter space of time than in any other case of which I have seen an account; all pulsation in the tumour having ceased fifteen hours after the treatment was commenced, and it never returned. A case is related in Dr. Bellingham's "Observations on Aneurism," treated at the Royal Military Infirmary, Dublin, in which pulsation ceased after ten hours of compression, maintained by two instruments alternately relaxed, (the pressure upon the artery being sufficient to check completely the pulsation in the tumour,) and it did not return. In this case, however, it is to be observed, that pressure had previously been applied to the artery in the groin by a weight, and had, it was supposed, caused some deposition of fibrin in the aneurismal sac. Not long ago a case was related at the Medico-Chirurgical Society, by Dr. Bellingham, in which the pulsation had ceased twenty-three hours after compression had been commenced. In the greater number of cases of which reports have been published, weeks, and even months, of patient endurance and constant attention have been required to bring about a successful issue. Indeed the great, perhaps the only, valid objection to the treatment of aneurisms by compression of the artery above the tumour, is founded on the tediousness of the process, and the pain to which the patient is subjected by the long-continued pressure of the tourniquet. In all other respects there can, I think, be no question that preference is due to the treatment by compression in comparison with that by ligature. Its general efficacy has now been proved in a sufficient number of cases. Of thirty-six cases treated in this way, in Dublin, we are informed that twenty-nine have been cured. If properly conducted, the procedure is almost entirely devoid of danger, either to the limb or to the patient; and, if it fails to effect a cure, the patient has not been placed in a more unfavourable position for the treatment by ligature. In cases where it has been necessary to operate under such circumstances, or where an opportunity has been afforded of dissecting the parts after compression, it has been found, with one or two exceptions, that neither the artery nor its investing cellular tissue, have been subjected to any material alteration at the part pressed upon, so as to increase the difficulty of the operation, or to modify its results.*

From the history of cases, and the dissections that have been made, it appears almost certain that the cure

of aneurism, whether the means used be compression or ligature, takes place in much the same manner, viz., by the formation of coagulum in the cavity, and the subsequent absorption of that coagulum and contraction of the sac. The formation of the coagulum appears, in most instances, to be the primary and essential part of the process, and the treatment is likely to be effectual and speedy, in proportion to the degree in which it favours the coagulation of the blood in the sac, by placing it at rest. It is by no means necessary that the artery should be obliterated at any part of its course. True, it commonly is obliterated in the vicinity of the aneurism; but in all the instances of dissection after cure by compression that I have met with, the artery has remained pervious above the aneurism; and even where ligature has been employed, it has not unfrequently remained pervious between the ligature and the aneurism. It is not even necessary that the circulation through the artery should be completely arrested, a mere retardation of the current of blood being sufficient to permit the deposition of fibrin in the sac, which is already favoured by inequalities in the surface of the sac and other causes. Nevertheless it must be borne in mind, that the more completely the current is suspended, the more quickly will coagulation take place in the sac, and the more speedy, as well as more certain, will be the cure. I do not think that this point has been sufficiently attended to in the treatment of aneurism by compression. So much has been said about its being requisite only to moderate the force of the arterial stream, that surgeons have been content in many cases with applying very slight pressure, have thus prolonged the treatment over an unnecessary period, and have sometimes failed to produce the desired result altogether. This at least has, I believe, been the case in most instances where so much time has been required to effect a cure; or, what amounts to the same thing, the instruments have been clumsy and insufficient, or the patient intolerant of pain.* Surely more numerous and more speedy cures would be obtained, and the new treatment would lose some of the reproach which now attaches to it, if the attempt were made in each case to carry it out more vigorously and effectively. In doing this, great care and great attention is required. Two, or even three, tourniquets should be used, so as to distribute the pressure over a greater surface, and to permit of a variation in the points at which it is applied. The instruments should be well adapted, and the surgeon should visit the patient frequently to adjust the apparatus, and regulate the pressure. If it can be done, without giving much pain, the pressure upon the artery should be maintained with such force as completely to stop the pulsation in the tumour; and great pains

* In a recent discussion at the Medico-Chirurgical Society, Mr. Cock is reported to have said, that he "had experienced some difficulty in applying the ligature after compression had been used, in one case, from thickening and absorbent inflammation over the sheath." I do not find any mention of this difficulty having been encountered in other cases of the same kind. Mr. Hewett has, in two instances, made most careful dissection, without discovering any thickening in the sheath or cellular tissue surrounding the vessels. In one case dissected by Dr. Bellingham, where pressure had been applied for twenty days, when the patient died suddenly from disease of heart, there was "some slight thickening of the cellular tissue around the vessel, at the situation where the pressure had been made, but no alteration whatever in the vessel itself." In two other cases there was nothing to indicate the points at which compression had been made; and in a fourth, the artery above and below the aneurismal sac is said to have been healthy.

* Doubtless, as Mr. Paget suggests in his remarks upon a case lately published in the *Medical Gazette*, the particular form of aneurism, whether it be "saccular" or "tubular," must have great influence on the facility with which coagulation of its contents will be brought about; the uniformity of the dilatation in tubular aneurism being very unfavourable to such a process. But this is not sufficient to explain the lengthy periods consumed in the treatment of popliteal aneurism by compression in so many cases, because the "tubular" form of aneurism is very rare in the ham.

should be taken to effect this. If that cannot be done, we should endeavour to effect this, as nearly as possible, by maintaining as much pressure as the patient is able to bear. In a great number of the recorded cases no mention is made of the amount of pressure employed; but so far as I have been able to gather, the cures have been far the most expeditious, and on the whole the least painful, where the surgeon has made it his object not merely to *moderate*, but to *stop* the pulsation of the aneurism.

CASE OF

RUPTURE OF THE BLADDER FROM
EXTERNAL PRESSURE.

BY DR. TOMKINS, YEovil.

DURING the spring of 1847, when the railway works were in progress near this town, an excavator, in undermining some earth in a deep cutting, was thrown from a height of more than twenty feet; the ladder on which he was standing was knocked from under him by the sudden fall of an almost solid portion of earth, weighing several tons. The man fell on his back, and the pickaxe with which he was working, together with the ladder, were thrown several feet behind him. The main bulk of earth descended on his abdomen, and it required the united efforts of nine or ten men to lift it from his body. He was conveyed home, and visited by my son, Mr. W. F. Tomkins, surgeon, who found the abdominal integuments much contused, and an extensive lacerated wound in the perineum, through which three fingers could be passed with ease, and which enabled him at once to discover that the bladder was ruptured.

My son sent for me to visit the case with him; and on my arrival I found the man almost pulseless. There was considerable hæmorrhage from the wound, which was three or four inches in extent, laying open the posterior portion of the urethra. I passed my finger through the wound, and found the bladder extensively ruptured, and at the same time introduced a catheter by the urethra, and brought it readily through the rent in the perineum. When reaction took place, the patient suffered most intolerable pain, accompanied with sickness and vomiting, for which a grain of opium was given every hour or two, with the best effect.

It is unnecessary to detail the symptoms and treatment of the case from day to day. Considerable sloughing of the integument of the abdomen took place. Fomentations and poultices were applied; the bowels were kept open by the aid of injections and castor oil; his strength was kept up; and opium given freely to soothe his pain, to the extent of from eight to sixteen grains a day. The wound soon began to assume a healthy aspect. A catheter was passed from day to day, and occasionally kept in the bladder a few hours at a time. At the expiration of two months the wound had healed, leaving the course of the urethra rather

tortuous; but at the end of another month, when the man left the town, the bladder was so far restored as to enable him to retain from eight to twelve ounces of urine.

Remarks.—This is an important case in surgery, proving that rupture of the bladder is not, as has been supposed, *necessarily a fatal injury*, and points out to us the necessity, in the event of such an accident, of our immediately making an external opening to give vent to the urine, which otherwise must be retained in the peritoneal cavity, and occasion death.

By such an operation we merely place a patient in the same position that he would be in after the lateral operation for stone with the gorget; for the wound in the perineum and urethra was as clean as if it had been cut with a scalpel; and here comes the question as to how the wound was produced. It is certain it was not from the entrance of any extraneous substance from without, for the man had on a pair of new corduroy trousers, suspended by his braces, and there was not the slightest rent about them. It is, therefore, evident that the weight and pressure of the earth compressed the bladder so completely within the pelvis that the urine was sent forward with such force as to tear the urethra and perineum in the manner described; and this tends to point out to us the utter impossibility of deciding, in many cases, the precise mode in which wounds are inflicted, or the weapons or missiles by which they have been caused.

CASE OF

RUPTURE OF THE FALLOPIAN TUBE.

By CALEB WHITTON, M.D., Llangollen.

DURING the course of this month Mr. Cotton, surgeon, Northampton, was requested to see a poor woman, aged 26, the wife of a shoemaker. She complained of severe pain in the abdomen, some vomiting, and had rather a feeble pulse. This was in the afternoon, and she had been taken ill about mid-day. Some purgative pills with opium were prescribed. In the evening he asked me to see her with him, as I was staying a few days in Northampton. We found the pain somewhat less, slightly increased by pressure; pulse extremely feeble, and the patient apparently sinking; we both considered there was some serious lesion of the abdominal viscera, but of what nature we could not pretend to determine. She considered herself three months advanced in pregnancy. Early on the following morning she died. A *post-mortem* examination discovered the effusion of about three pints of blood into the abdominal cavity; a large ulcerated rupture in the left fallopian tube, about its middle; a fœtus of about two months amongst the extravasated blood, and two small hydatids on the left ovary. She had been in her usual health in the morning, and whilst out had stumbled over a stone.

Llangollen, September 30, 1851.