cessive that it required two persons to hold her in bed. She had been suffering for a considerable time (before admission) from rheumatic fever, towards the conclusion of which she experienced a good deal of palpitation of the heart, which was soon followed by chorea. At the time of her admission the intelligence was unimpaired, the respiration natural, and the only complaint she made was of severe pain in the head and palpitation of the heart. The bowels were confined; appetite bad; tongue furred; pulse 96, regular, and of tolerable strength. The spinal column was very carefully examined, but not the slightest degree of tenderness could be detected in any portion of it. On percussing the præcordial region, there was no increase of dullness, but *there was a distinct friction sound heard with both the first and second sound of the heart.* On the third day the patient died, and eight hours afterwards the body was very carefully examined, but the only abnormal appearances detected were in connection with the heart. The external surface of the pericardium was very vascular, and adhered extensively to the left pleura; the quantity of fluid in the pericardium was not greater than natural; there was a considerable patch of vivid redness on the surface of the membrane covering the heart about the base of the left ventricle, and the pericardium reflected over the great vessels was very much injected. The left ventricle was thicker than natural, and the mitral valve was slightly thickened and indurated.

The second case was that of a boy, aged nine, who had been ill for six weeks previous to his admission into the infirmary. At the period of his admission he complained of severe cough, dyspnoea, and palpitation of the heart. On percussing the chest, the right side was found to yield a good resonance throughout, but on the left side the dullness was much more extensive than natural; a slight sibilant ronchus was perceived in each lung; no fremitus felt on placing the hand over the region of the heart; impulse increased; a prolonged and loud blowing heard with the first sound of the heart, and synchronous with the impulse, immediately beneath the left mamma; the abnormal sound is also heard, but less distinctly along the sternum, as high as the cartilage of the second rib; the second sound normal. Pulse 120, regular. The boy could give no history of his own case, but the following particulars were obtained from his mother:—"His complaints commenced with muscular twitching on one side of the body; the boy was so violently twitched as almost to prevent him walking; sometimes it was violently drawn to one side. The arm on the same side was also so much affected that he could not raise anything to his mouth in a spoon. After these symptoms had continued for a short time, the inferior extremities began to swell, and the twitchings gradually subsided." His intelligence was never in the slightest degree affected. After death, which occurred about two months after he entered the hospital, there was no morbid appearance detected, except in connection with the heart. The pericardium, externally, was much injected, and adherent to the left pleura; it was also very firmly adherent to the heart from base to apex, so that it was almost impossible to effect a separation. The heart was considerably enlarged, and its substance rather soft. The right auriculo-ventricular opening natural, and the

tricuspid valve healthy. On the left side, the auriculo-ventricular opening was normal, but the mitral valve much thickened and indurated. The middle segment of the aortic valve was slightly thicker than natural, but the other portions were healthy.

The author afterwards proceeded to remark, that spasmodic affections of different sets of muscles have frequently been observed in connection with pericarditis, and quoted illustrative examples from Andral, Bouillaud, &c. The practical lesson deduced from the whole was, that *it is important in all cases of severe and sudden spasmodic affection carefully to examine the state of the heart by means of the stethoscope.*

ANEURISM OF THE FEMORAL ARTERY,

SHOWING THE IMPORTANCE OF APPLYING A LIGATURE BELOW, AS WELL AS ABOVE THE SAC.

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In the number of this journal for January, 1841, I related two cases of varicose aneurism, in which the necessity of a ligature above the sac, and of another below it, was proved. I have now to detail a similar exigency in *simple aneurism*, and which will suggest the value of reconsidering the present rules of treating that disease.

Isaac Davis, a colored man, a carpenter, aged forty-eight, of a constitution apparently worn, though he says that his life has been temperate, regular, and industrious, came into the Blockley Hospital on the 6th July, 1838, with a tumor the size of the fist, in the right inguinal region, extending itself outwards. It is hard, resisting, diminishes but little on pressure; has an aneurismal thrill at the inner side of it, and when a stethoscope is applied, the rushing tumultuous noise of a fluid in violent agitation is easily perceived. Pressure upon the femoral artery, below Poupart's ligament, arrests the pulsation, the thrill, and the noise. He suffers extreme pain in the part, with numbness of the limb and foot, which are somewhat anasarcaous. He first perceived the tumor eleven weeks before, shortly after a strain in handling a piece of scantling; it was then the size of the last joint of the thumb, and pulsated violently; it has grown constantly since, and according to his account, the pulsation is most distinct in the early forenoon, the tumor being then, also, larger than in the afternoon. Since his introduction into the ward, it has evidently grown daily, and the pulsation, from being obscure to the feel at first, has become distinct and satisfactory.

He entered the house anxious for an operation, his mind having got its tone from the practitioner who previously attended him. The proximity of the tumor to Poupart's ligament, with which it was immediately in contact, and seemed to lift up, together with my doubts on the state of the artery above, disinclined me strongly to an operation; the solicitation of the patient, however, prevailed with me on the 14th inst., and I accordingly undertook the operation on the 17th of July, at twelve o'clock, by the consent, and in the presence, of the surgeons, Drs. Harlan and Pancoast, who assisted me materially in the progress of it.

There were several younger surgeons present, not of the house, the students of the house, and Dr. Gerhard, with his clinical class.

The first act of the operation was to cut through the skin in a line of four inches length, nearly parallel with Poupart's ligament, the upper end of the line somewhat above Poupart's ligament; an incision was then made, also, through the skin from the first over the course of the femoral artery along the inner side of the tumor for two inches. The fascia superficialis was cut through in the same lines. Poupart's ligament was then detached from the fascia lata femoris; the inferior edge of the internal oblique and of the transversalis were then raised up. Finding Poupart's ligament very much on the stretch, from the pressure upwards of the tumor, I divided transversely a few of its fibres. I then moved the peritoneum and the subjacent cellular substance aside, and having felt distinctly the pulsation of the external iliac artery, I passed about an inch above Poupart's ligament my large hæmostatic hook, with its ligature around the artery from within outwards; in this I was directed wholly by the touch, as the parts were so confined as to render vision unavailing. Finding some difficulty in slipping the ligature over the point of the hook, I loosened the handle and brought out hook and ligature with the aid of a pair of pliers. A ligature being then under the artery, I tried repeatedly, by pressing the artery with the ligature against the end of a finger, whether the pulsation of the artery below the ligature, and of the tumor ceased, and found it to do so; the other surgeons of the house joined in the same experiment, as well as Dr. Johnson, one of the surgeons invited. The control of the circulation of the external iliac being thus evident, the ligature was tied, and the pulsation of the aneurism ceased instantly.

Apprehensive from what had occurred in the case of Gen. P. to Dr. Harris and myself in varicose aneurism, and with Dr. Randolph, in the same kind of disease (see *Am. Journ. ut supra*), that there might be some supply of blood to the sac besides, I determined to ascertain by opening the tumor, which I did very freely, and turned out of it half a pint of laminated fibrin, and as much fluid arterial blood. The blood collected with extreme rapidity in the sac, and we encountered almost immediately a formidable and urgent hæmorrhage from it, which, notwithstanding the introduction of sponges and pressure on them, yielded from sixteen to twenty or more ounces of blood in a few minutes. I was certainly not prepared in mind for so much bleeding; the mode to meet, or rather anticipate it, would have been to have two tourniquets on after the artery was taken up, one at Poupart's ligament, the other below the tumor; and having screwed up the upper one to press from the tumor all its fluid blood, and then to screw up the lower tourniquet; next to open and clear the sac of its coagulum, then loosen the upper tourniquet, and take up such vessels as bled, and do the same afterwards with the lower tourniquet. I might have saved the patient sixteen ounces of blood, by such precautions.

Dr. Harlan pressed on the femoral artery below the tumor with some effect; he then proposed to confine the limb just below the tumor with a tourniquet; this was done instantly; a simultaneous fainting of the pa-

tient lasting, for four or five minutes, was attended with a diminution of the hæmorrhage.

I then laid open the sac still more freely by the previous crucial cut being extended, in doing which the femoral artery at the lower and inner side of the sac was cut through; ligatures were thrown with my hæmostatic hook below and above the cut through the femoral artery, by which the bleeding was measurably reduced, but not suppressed. I next made a further exploration of the sac, and found that the femoral artery was bleeding into it from above the sac. The artery was next secured there, also, by a ligature, with my hook. The hæmorrhage upon this ceased entirely, as a careful examination of the whole interior of the sac exhibited no bleeding orifice; but for fear of the insufficiency of this ligature of the femoral artery, which was put on in some haste, I placed still another above it.

A process of the sac was found to have passed for some inches upwards under Poupart's ligament into the abdomen; it was just within the anterior superior spinous process of the ilium. This accounted for the extreme tension of Poupart's ligament during the operation, and the great difficulty I had in making space to work the instrument for taking up the external iliac.

The entire operation lasted forty-five minutes. An interval was then allowed to see whether all was secured, which appeared to be the case. The dressing was next executed; the edges of the cuts were kept apart by lint—that is to say, the cut for the iliac artery as well as the cut into the aneurismal tumor; they were then approximated with strips of sticking plaster, and fixed in place with a compress and a bandage of the figure of 8. The patient was put to bed, and in a little time his circulation and vivacity were strong.

At this moment the following questions arose in my mind:—Where did the hæmorrhage from the sac come from?—by what routes?—not the external iliac, because we had every evidence of that being fast? The routes open to this suspicion are the epigastric and circumflex iliac, for the bleeding from that end of the femoral artery above the sac; and the profunda, for the femoral bleeding below the sac. The originally diseased portion of the artery was about two inches long. The sac was upon one side of it, the iliac, exclusively and expanded to form a tumor as capacious as a pint measure.

As I did not see the profunda, I had no distinct conception of its place of origin.

July 18. Is in a tranquil good state to-day. The limb has its natural temperature (the weather is very hot, thermometer at 80°). The pain which was formerly in it from the aneurismal tumor is gone, and it feels, according to his account, natural; a previously existing œdema of foot has also subsided; his pulse is good; from some cause or other he was seized during the night with dyspnœa. Ordered a large sinapism to thorax.

Tartaric acid, ten grains;
Tartarised antimony, one grain;
Sulphate of magnesia, six drachms;
Water, eight ounces. Mix. Half an ounce every two hours.

19. His breathing to-day is hurried and catarrhal, as if there were an accumulation of mucus in bronchia; his countenance has rather a distressed appearance, and though he is perfectly collected, he does not seem

quite so well; his pulse last night, Mr. Wendel the senior student informs me, rose to 140; it is now full, soft, and short. I ordered a blister plaster to front of thorax; vol. julap, half an ounce every two hours, with a dose of tincture of lobelia in the same, according to indications.

The wound a little sore to touch, says it hurts when he coughs.

20. The patient had another attack of difficult breathing last night, but not so severe. Dressed the wound; found that it had suppurated somewhat, and that there had been an effusion at its edges of coagulating lymph. He is very much debilitated, and his breathing is high and short, with occasional cough; limb generally easy, excepting ankle and heel, which are painful; its temperature natural; no pulsation perceptible in pedæal artery. Ordered mush and milk for his diet. Compound tincture of cinchona, one drachm every two hours. Bowels not having been opened since the day of operation, directed a deserts spoonful of castor oil every two hours till that was accomplished.

21. Oil produced five free evacuations. Breathing not so labored. Dr. Gerhard having explored the front of the lungs for me, concluded the left to be nearly sound, the other with a slight mucous rattle in the cardiac region. Had a very severe chill before I saw him; debility increased; voice feeble; countenance rather collapsed; wound in about the same state as yesterday, very inconsiderable suppuration from it; the aneurism is now simply a fissure, about capacious enough to lay the whole length of the fore finger in; great pain in leg from knee to foot; temperature of limb good.

22. Symptoms of feebleness increased; leg rather cold; wound flabby, inactive, and has merely secreted a little serum with some pus; voice weak, and made with effort. Has had another chill this morning.

Directed sulphate of quinine in solution, one grain every hour. Egg, milk, and brandy, *ad libitum*. Wound to be dressed with a suppurative poultice, made of bread, milk, and basilicon ointment. Touched the surface of it with spirits of camphor.

He died this afternoon at four o'clock.

Autopsy.—July 23, eleven o'clock, a.m. The weather being still very warm, some advance in putrefaction; the parts operated on were, therefore, black and discolored on their surface.

The external iliac was inflamed to a deep red from the ligature to a few lines of its root, and contained a loose thin coagulum of blood adhering to its sides. It had been secured precisely at the point intended—to wit, just above the epigastric, and the ligature had been properly drawn; neither the peritoneum nor the iliac vein was injured. A recent suppuration in the sub-peritoneal cellular substance was found to start at the ligature, and ran up the iliac fossa and loins to terminate behind the right kidney, where a sort of font was formed behind the *psoas magnus*. Pressure by the tumor upon the surrounding muscles had hardened and changed their structure; some caries had occurred on the ilio-pectineal protuberance from that cause. Wishing to make a more deliberate examination, I cut the parts out to prepare in spirits of wine. The structure being cleared by this process, I found that an aneurismal orifice of an inch in length,

existed on the iliac side of the femoral artery; that the sac itself was formed almost entirely by the contiguous cellular substance of the inguinal and iliac regions; and that the trunk of the anterior crural nerve passed along the iliac margin of the cavity of the sac, contributing to its surface interiorly. The profunda artery arose at or near the aneurismal orifice; the precise point I did not ascertain, but I believe very close to its upper end; we may, therefore, conclude that the retrograde hæmorrhage came from the anastomosing of its branches with those of the internal iliac artery, and also from the epigastric and circumflex iliac, judging from the incidents of the operation.

Appearances having no immediate dependence on the disease, were a heart hypertrophied with some thickening of the valves of the left side, an enlargement of aorta, and a small black vegetation immediately below the valves of the aorta. Two ounces of water in pericardium. Lungs of both sides adhered to parietes of chest from an ancient pleurisy, affecting their entire periphery. The lungs were somewhat congested with blood.

The abdominal viscera were examined superficially, and were in good order, with no peritoneal inflammation. I observed, however, an anomalous sac, such as I had never met with before; it was a spherical pouch of peritoneum of the capacity of a quart, situated in the right iliac fossa, under the head of the colon, which it had lifted out of its place almost into the lumbar region. This pouch was in fact an internal hernial sac, a pocket formed exclusively of peritoneum like a diverticulum from this membrane, and contained the lower half of the small intestinal canal; it resembled precisely a large bladder filled with intestines, having its orifice of a reduced size, but not so much so as to threaten strangulation. Its parietes were so transparent, that the first impression was that of an ancient peritoneal adhesion of the small intestines. There was no point in the parietes of the abdomen where this preternatural sac seemed to have at any period protruded, it was, therefore, a pure peritoneal hernia occupying the iliac region, and furnishing no external indication of its existence.

In the above narrative, we have a third example occurring within the space of a year, under the observation of one individual, where it was absolutely necessary to apply one ligature above the aneurism and another below it, to arrest the hæmorrhage, and this last a case of simple aneurism.—*American Journal of Medical Sciences*, October, 1842.

PLANTS AND ANIMALS.

Animals (says Liebig) are distinguished from plants by their capability of moving from place to place, by their sensations and sensibility, or, in one word, by their senses, for all these purposes certain organs are required, which are entirely wanting in plants. The same active principle, however, gives to the bud, the leaves, and the fibres of the root, the same wonderful properties. The plant is alive as truly as any part of the living animal body. They both receive on the same principle, the properties of growth, reproduction, and the power of replacing in the system what has been consumed. Of these properties vegetable life consists, it is developed without consciousness.