

If we take into review the whole of the circumstances of the interesting case which has thus terminated, we cannot but arrive at the conclusion, as I observed in my last communication upon it, that the steps which were adopted for the relief of the patient were the means of saving her from an otherwise inevitable death; and we may further affirm, taking into account the post-mortem appearances above recorded, that the distal operation for aneurysm of a vessel so near to the heart even as the innominate, is abundantly sufficient for its cure. It is quite true, that in this case a considerable tumour remained after the operation, but the previously existing sac was so completely blocked up with the dense coagulum which Nature had employed for the cure, that there was no longer any risk of death from its rupture. Had the patient escaped the casualty which led to her death, and lived but a few years longer, it is more than probable, looking to what occurs in aneurysms seated externally to the great cavities, where a ligature has been employed, that the tumour, in this instance, would have disappeared entirely. I saw a case, a few years back, of aneurysm at the bend of the arm, produced by bleeding, which was treated by ligature of the brachial artery; the tumour, at the time of the operation, was as large as a man's fist; but though the progress of the disease was arrested by the operation, two years elapsed before the swelling was entirely dissipated. All this is owing, no doubt, to the imperfect state of organisation of the mass of coagulum, and to the almost total absence of absorbent vessels.

It may not be amiss to mention, that the patient lived two years and three months after the ligature of the carotid, and sixteen weeks and five days after the subclavian had been tied. The accompanying drawing represents the state of parts as they appeared after death.

FATAL HÆMATEMESIS. ANEURYSM OF THE DESCENDING AORTA.

To the Editor of THE LANCET.

SIR:—If you deem the following case worthy of a corner in your Journal, you will oblige me by its insertion; the preparation, of which the woodcut is a faithful representation, is in my possession. I am, Sir, your obliged servant,

G. A. WALKER.

101, Drury-lane, Nov. 5, 1838.

Feb. 4, 1836, I was requested to see James Walkley, aged 54, at Messrs. Little and Co's., cloth-workers, White Hart-street. Upon arriving I found that he had vomited an immense quantity of blood. He was lying

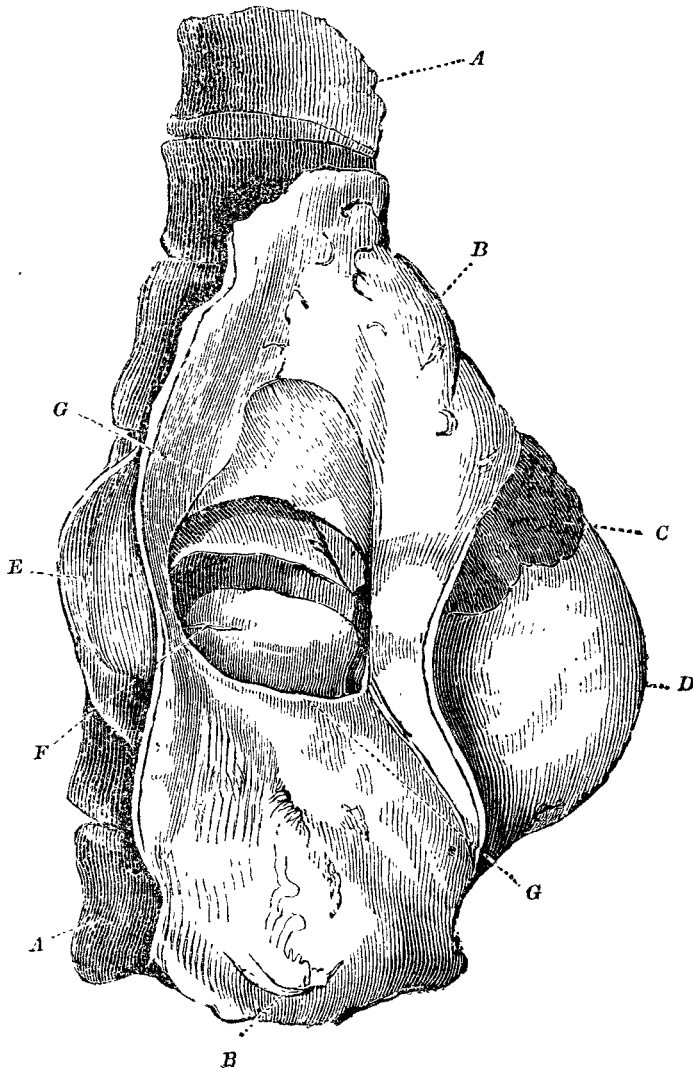
on his back in the room; blood in alarming quantity, presenting an appearance partly arterial, partly venous, mixed apparently with a portion of the contents of the stomach, was still flowing from the mouth: the quantity lost might amount to four pints. His countenance was extremely pallid and anxious; he was completely exhausted; the pulse was scarcely perceptible and intermittent. He complained of extreme pain in the head. He was placed in a semi-recumbent position, sent home, and a sedative draught administered. He had just previously been lifting a weight. Upon a particular examination I could discover no proof of the existence of disease in the heart, lungs, or the cavity of the abdomen. In the course of a fortnight he was sufficiently recovered to resume his employment.

Nine months afterwards I was again called to visit him at his house in Windsor-court, Strand. Another vomiting had taken place a few minutes before my arrival, and an enormous quantity of blood had been ejected,—certainly more than three quarts; this appeared unmixed with any ingesta, and had a bright florid hue. Sedatives were administered; cold applied over the region of the stomach. He recovered sufficiently, by the employment of tonics, to be able to resume his work in about a fortnight. I then lost sight of him, except as an occasional patient, for some months.

I saw him in April, 1837, in St. Giles's Workhouse, dead. It appeared that he was again attacked by vomiting in Holborn; a very large quantity of blood was lost. He was taken to a surgeon's in the immediate neighbourhood where he fell. Bleeding was attempted; he had in a few minutes ceased to exist. Interested in the case, I was anxious to verify or disprove my suspicion of some serious disease existing in one or both of the great cavities of the chest or abdomen. Some serious mischief must have existed, although undiscoverable by any means I could employ during life. I voluntarily attended the inquest held in the neighbourhood; the Coroner thought it perfectly unnecessary to examine the body; the Jury agreed with the Coroner; the hackneyed and too frequently abused verdict "Died by the visitation, &c.," was returned. On the poor man's person a will was found, requesting that I would examine his body, and "let all the world know, through the 'Morning Advertiser,' that he had lost one kidney." The source of this wish will appear as we proceed. I have been able to obtain some points of his previous history, however imperfect they may be, from the time elapsed since the *presumed* first cause to the fatal termination of the case; yet I believe they will be valuable as tending to elucidate some of the appearances presenting themselves at the post-mortem examination.

In the month of August, 1829, the deceased, in carrying a heavy burden of cloth, while attempting to avoid some vehicle passing at a furious rate, slipped from the edge of the curb, fell, and received a very severe contusion about the middle of the spine, this portion of the column striking the edge of the curb-stone; the weight being attached to the head, the impetus of the fall was considerably increased. He complained to those who conveyed him home, that his back was broken. Medical assistance was immediately sought; seven days afterwards he entered St. Bartholomew's Hospital under Dr. Clutterbuck. That gentleman adopted the antiphlogistic line of treatment, both topical and general. His bowels were with great difficulty acted upon; a dark-coloured bloody discharge was occasionally passed

for some days. A retention of urine rendered the employment of the catheter necessary; the urine was for a considerable period deeply tinged with blood. Having remained in the hospital nine months, he returned home. Subsequently he became a patient at the Aldersgate-street Dispensary, and obtained some benefit. Two months after this period he entered St. Thomas's Hospital, and received much relief from local and general bleeding. Feb. 27, 1832, he resumed work; was much employed in walking. About this period he sustained a fresh injury over the spine, in the *immediate neighbourhood of the original one*. This was occasioned by wrestling with a comrade, who threw him heavily, the spine coming in violent contact with the back of a chair. His muscular exertions, which were very considerable, in-



A A. Vertebrae.

B B. Sac laid open.

C. Melanotic appearance of the left sac.

D. Left sac.

E. Right sac.

F. Carious vertebrae.

G G. Opening communicating with both sacs, presenting an oval, and well-defined margin,

creased the original severity of this last unfortunate accident*. He again became an invalid. A few months afterwards he complained, *for the first time*, of a sensation of numbness in the lower extremities, as far as the groins. The upper limbs were of their natural temperature. Such only are the symptoms with which I have been able to acquaint myself, and I am ignorant of the treatment adopted.

Sectio Cadaveris, seventy hours after Death.

The body, of the middle stature, was muscular, and uncommonly well formed. The viscera presented the following appearances:—The lungs appeared in a state approaching to melanosis in some parts, gorged in their inferior and posterior portions, darker than natural, non-crepitating, but by patches elastic and healthy. The stomach and intestinal tube were in many portions (viewed in situ) too vascular; this vascularity appeared in irregular patches. The stomach was distended, and of a dusky chocolate hue over its entire surface; a patch of about four inches in diameter, of a deep purple colour, was seen through the peritoneal coat, and occupied its anterior cardiac extremity; one edge was in immediate approximation with the spleen, *which was healthy*. There was no deposition of fat on any of the viscera. The kidneys were perfectly healthy; the urinary bladder contracted; the liver of its natural size and perfectly healthy; the gall-bladder contained a small portion of inspissated bile. The heart was perfectly healthy, with the exception of a slight hypertrophy of the left ventricle. Wishing to ascertain from what source the large quantity of blood lost in the three periods of which I was cognizant had proceeded, I determined to inject the abdominal and thoracic arteries and veins. A pipe was introduced immediately above the bifurcation of the iliacs, and another into the ascending cava; ligatures were applied above, on both classes of vessels; a size injection was then carefully thrown up. The venous injection was perfectly successful, but the arterial one less so. Some time was allowed to elapse before the viscera were very carefully removed; the descending aorta was found the seat of a large aneurysm. The tumour extended from the body of the ninth dorsal to the second lumbar vertebra: the larger portion, situated to the left of the mesial line of the vessel, extended to the articulations of the heads of four or five ribs, with the transverse processes of the vertebræ, to which it was very firmly attach-

ed by the medium of an extremely thick membrane.

The aneurysm presents the appearance of two distinct tumours; the one to the left is the size of a large orange; at its upper portion the coats are extremely thin, rough, and friable; this portion (see woodcut) has well-defined edges, is about an inch in diameter, and produces an inky exudation. On the right side the tumour is about half the size of that on the left, attached to the heads of the ribs and transverse processes of the corresponding vertebræ by an extremely strong medium. The opening communicating right and left with the respective aneurysms is of a regularly ovoid form, the boundaries acute and well defined. Through this opening the completely denuded and deeply carious vertebræ, but still apparently healthy intervertebral cartilages, may be seen. The left bulging portion of the aneurysmal sac is entirely filled with a firm laminated coagulum; organised fibrinous depositions have rendered nearly impervious the descending continuation of the aorta; a probe can scarcely be passed from below to above. The aorta was now laid open from its origin to its termination in the femorals; its lining membrane, devoid generally of injected appearances, was transversely and longitudinally fissured, puckered in some places, apparently slightly deficient, and thickly studded in its whole length with ossific depositions; the lining membrane in many situations was lacerable on the slightest touch, and almost without effort could be stripped from the middle coat of the vessel. This friability of the arterial coats, easily perceptible to the finger on the application of the ligature to secure the pipe of the injecting syringe, induced a further examination in different situations; the brachial, femoral, and iliac arteries, were successively examined by dissection, and the ligature, and found to be in the same condition; the ligature, when drawn tight, gave a peculiar crepitating feel to the finger, very different to that of cutting through the healthy arterial coats. We have already stated that the heart was healthy in its external appearance; its internal structure was equally so, with the exception of a small bony deposition placed between the origin of the aorta and the base of one of the mitral valves. The oesophagus and stomach were now particularly examined; a slight injection of the mucous lining of the oesophagus, at its cardiac termination, was noticed; this extended two inches. The mucous lining of the stomach, over its entire surface, presented a very peculiar appearance; very minute portions of the size injection had passed, in many places, through its capillaries; a uniformly injected, extremely thickened, and pulpy state of its mucous lining membrane existed, from the oesophageal opening to the cardiac extremity; the patch, as noticed

* About three years afterwards he fell from a considerable height (eight feet), and again struck the spine; he suffered pain, but continued his work. Had this any connection with the production of the second aneurysm?

above, apparent through its peritoneal coat (in situ), was of a deeper vermilion colour, more easily lacerable, and at least a quarter of an inch thick; the slightest effort was sufficient to detach it from its connections with the muscular coat. The rugæ of the organ were not perceptible. The few shades of difference in the vermilion tint of the above-mentioned portion of structure, were gradually blended with the uniform bright and beautiful colour of the general mucous surface, which had the appearance of moistened red silk velvet. A little bloody serum was found, sufficient merely to tinge a linen rag; this might amount to a quarter of an ounce. With this exception, the stomach was perfectly empty; not the least portion of coagulated blood could be detected; it may be here mentioned that the ascending cava was enormously distended. The aneurysm was now carefully dissected from its surrounding connections, and a lock-saw employed to cut away the bodies of the vertebra just anterior to the spinal canal, leaving the spinal marrow untouched and the canal unbroken.

Observations.—This case affords material for interesting speculation. There was not present a single symptom during life that could indicate the existence of so serious a lesion. The diagnosis during his first treatment was incorrect,—aneurysm was not suspected, but inflammation and subsequent destruction of the left kidney was predicted; this the patient always believed. The treatment pursued, which, I doubt not, was exceedingly proper, failed, as it unfortunately too often will, in arresting the progress of the disease; whilst the unfortunate collateral circumstances,—anxiety of mind, and the necessity of attempting to support himself and family, by returning to a laborious occupation, and one, of all others, perhaps the least adapted to the existing and subsequent condition of the disease, would render his recovery, under any circumstances, extremely improbable. Aneurysms of the aorta, when deep-seated, are almost beyond detection, and unless a tumour present externally, we have frequently not a single diagnostic mark (as the present case proves) that would lead us to suspect the existence of so formidable a lesion.

Many cases are on record in which, although aided by the stethoscope, practitioners have been totally unacquainted with the existence of aneurysm until the sudden death of the patient, and the subsequent examination have revealed the circumstance. Dr. Hope mentions a case in which a distinguished foreign auscultator failed to detect it, and many more might be adduced, were it not a generally received opinion that, in the absence of a pulsating tumour, we have no means of detecting aneurysm of the aorta. In the present case there was no indication of so serious a lesion, with the

exception of a slight irritating cough, and occasional pain, referred to the back. The man's health was good, and he was enabled to continue for years his laborious occupation; he was frequently compelled to lift heavy weights, preparatory to doing which the chest must, of necessity, be fixed. Here was another powerfully exciting cause, independent of the mechanical obstruction and the general retardation of blood. The condition of the arterial tunics could not fairly be assumed to be the effect of the mechanical cause, it must rather be assumed to be one of those inexplicable changes of tissue known only as the result of a peculiar diseased action. There seems little room for doubt that the commencement of the serious disease, which ultimately destroyed our patient, was co-existent with the first accident; that the arterial coats, perhaps at that period seriously affected, would be more susceptible of diseased action, whether produced by external violent agency, as in this case, or by some one of those inexplicable causes not so easily appreciable. The discharge of blood from the bladder, as well as a presumed similar discharge from the intestines, led to the opinion that the kidneys had been destroyed; yet the post-mortem gave no such confirmatory evidence, *both kidneys were perfectly healthy*. Dr. Copland observes, "that, with respect to the origin of this lesion, it may be referred primarily to inflammation of the vessels; but various intermediate changes will necessarily have taken place, from the more immediate effects of inflammation to the complete obliteration of the vessel. It is probable that, in some rare instances, as in some large arterial trunks, the transverse rupture of the internal membrane of the vessel, with the consequent effusion of lymph and formation of fibrinous coagula, may so obstruct its canal as to give rise to its partial or total obliteration, without any aneurysmal tumour having formed; and it is not improbable that obliteration, or constriction of the canal, may have proceeded, in other cases, from the advanced stages of the deposition of fibrinous coagula, and the subsequent changes which had taken place in them, and the diseased coats of the vessel, having ended in obliteration and the establishment of a collateral circulation." Dr. Hope says, "that when an aneurysm is buried deep in the chest, and cannot be detected by the sight or touch, it does not present a single general sign that is peculiar to itself; there are even cases in which it occasions no functional derangement or inconvenience whatever, and the first circumstance that unveils the truth is the sudden death of the patient while apparently in the enjoyment of perfect health. We have met with six or seven instances in which large aneurysms had existed without awakening even a suspicion in the mind

of the medical attendant. We are acquainted with only one general sign of aneurysm of the thoracic aorta which is unequivocal and certain, namely, a tumour presenting externally, and offering an expansive, as well as heaving pulsation, synchronous with the action of the heart. Of the remaining general signs, a large class are identical with those of organic disease of the heart, viz., palpitation, dyspnoea, cough, tendency to syncope, terrific dreams, starting from sleep, hæmoptysis, livid or otherwise discoloured complexion, cerebral or hepatic congestions, serous infiltration, &c." The difficulty of forming a correct diagnosis on the case we are discussing would be increased by the age of the aneurysm, and the consequent deposition of fibrinous coagula which had nearly filled the entire sac.

During life I made, at different periods, careful examinations of the dorsal, lumbar, and exterior abdominal regions, as did several of my medical friends, yet we were unable to detect the existence of aneurysm. The state of the entire arterial tube, thickly studded as it was by bony spiculæ, from the superior origin of the tumour to the commencement of the aorta, must be borne in recollection; whilst from that portion of the vessel immediately below the termination of the sac I removed a circular bony ring of the size of the inner calibre of the vessel, and about three-quarters of an inch in length, was plugged by fibrinous deposit. This peculiar state of parts must necessarily, from the numerous obstructions it would present to the uninterrupted circulation of the blood, and the points of attachment it would offer to the circulating fluid, favour considerably the formation of coagula in the interior of the tumour, and this must have materially prolonged the life of the patient; for, without such a provision, the thin and very easily lacerable portion of the tumour, marked in the plate as the melanotic portion of the sac, must inevitably have given way, and produced extravasation, fatal, from its immediate loss to the circulation, or from the subsequent effects on the abdominal contents. We have evidence that at two distinct periods he lost enormous quantities of blood, from the effects of which he rallied in a most surprising manner; that, within a fortnight after each loss of blood, he was enabled to follow his employment as before. There, then, it appears to me, remains but one explanation for this circumstance: these large quantities of vital fluid were poured out gradually, most probably from the overloaded *capillaries* and exhalant vessels of the mucous membrane of the stomach. Faintness, in both instances, was the gradual precursor, with the usual concomitants; a sensation of a load in the region of the stomach; ringing in the ears, dizziness, &c. &c. The mechanical ob-

struction to the free circulation of the blood would primarily assist in producing the highly injected and thickened state of stomach discoverable after death.

We learn, from the patient's history of his case, that he had passed, during his first illness, considerable quantities of blood from the bowels, whilst the hæmorrhagic tendency of the mucous surfaces was further manifested by the discharge of blood from the bladder for some considerable time after the receipt of his first accident. The probability is, that, during the first formation of the aneurysm, blood was effused in such quantities as not to act as a mechanical irritant to the stomach, and thus produce vomiting; while, after the gradual increase of the aneurysm, during a series of years, an attempt at collateral circulation was *necessarily* set up, in consequence of the almost complete obliteration of the arterial canal for upwards of an inch, at the lower portion of the aneurysmal tumour. The attempts to carry on the circulation would be, of course, involuntary and continuous, and, except during the first months he was under medical care, uncontrollable, medically or dietetically; thus we may account for the disorganised condition of the inner coats of the stomach, and the loss of blood from the entire capillaries of this viscus; the venous and arterial retardation most probably producing more or less active or passive exhalation from its vessels. I think it highly probable that in the two first instances the loss had been more gradual to the circulation, and not so excessive in quantity as the last fatal hæmorrhage.

DREADFUL EFFORT

TO CURE

ELEPHANTIASIS AND LEPROSY

BY RECEIVING

THE BITE OF A RATTLESNAKE.

To the Editor of THE LANCET.

SIR:—I beg to offer for insertion in your valuable periodical, the accompanying case, which occurred on the day of our arrival in the port of Rio de Janeiro. The experiment was suggested, I believe, by a case which had been reported from the interior, where an accidental bite of the rattlesnake had terminated favourably. I remain, Sir, your most obedient servant,

R. WHITMORE CLARKE,

Assist.-Surg. R.N.

H. M. Brig *Opossum*, Falmouth Harbour,
November 28, 1838.

Masianno Jose Machado was bitten by a rattlesnake, for the express purpose of being cured of elephantiasis and lepra. The individual, who made this experiment, was a