

A Mirror

OF THE PRACTICE OF MEDICINE AND SURGERY IN THE HOSPITALS OF LONDON.

Nulla est alia pro certo noscendi via, nisi quam plurimas et morborum et dissectionum historias, tam aliorum proprias, collectas habere et inter se comparare.—MORGAGNI. *De Sed. et Caus. Morb.* lib. 14. Proœmium.

KING'S COLLEGE HOSPITAL.

MEDULLARY CANCER OF THE ILIUM, PRESENTING VERY STRONG PULSATIONS.

(Under the care of Mr. FERGUSSON.)

(Concluded from p. 379.)

From its first appearance to the present time the tumour had been steadily increasing in size.

State on admission.—There is now seen on the posterior part of the dorsum ilii, on the left side, a pulsating tumour, situated above and slightly over the great sacro-sciatic foramen; and the crest of the ilium can be felt distinctly above it. The tumour measures five inches across in one direction, four in the opposite, and the circumference is nearly circular. The growth stands out from the surface of the body about one inch. When the fingers are firmly pressed on the tumour, it recedes before them; but on removing the latter, it immediately resumes its original size and position. The growth is not at all tender to the touch, and the pulsations are very manifest in it, as the tumour may even be seen to throb, and each pulsation is synchronous with those of the heart. A strong bruit de soufflet is heard with the stethoscope. As regards the patient's general health, he is in a state of great debility, a condition which has been coming on for the last two years; the appetite is, however, good; the man sleeps well; the pulse is 90, weak; but the bowels are never moved without a purge.

The patient continued in about the same state for the next three weeks, his case exciting much interest, as he had been sent up from the country as suffering from gluteal aneurism. It was, however, soon manifest to Mr. Fergusson that the symptoms above described, the emaciation, helplessness, pain, &c., were more characteristic of malignant disease than aneurism; and, in spite of the pulsations, the affection was looked upon as a medullary tumour connected with the bone, the former being raised and made to pulsate by an arterial trunk lying either within it or in its immediate vicinity.

On May 30th, about twenty-six days after admission, the patient was seized with severe pain in the hip and down the left leg, for which an opiate was ordered.

On the following day, the man complained of very severe pain in the affected part; his speech became inarticulate, and there was inability to pass water. The emaciation and weakness, which had been gradually increasing since admission, were now extreme, and it was perceived that the left leg was shortened by three inches and a half. On examination of the hip, a good deal of thickening was found about the trochanter, and moving the limb gave the patient considerable pain. When the severe suffering was somewhat abated, the thigh was carefully examined, and found broken just below the trochanter. The tumour had, at the same time, lost in a great measure its pulsations; a spreading upwards had obscured the margin of the crest of the ilium, it being now easy to feel the tendons of origin of the erector spinæ over the surface of the tumour.

For the next twenty-four days the growth scarcely altered in its appearance, the inguinal glands became enlarged, and it could be felt that a good deal of callus was thrown out around the fracture. The poor man was breaking down very fast, both in body and mind, there being a good deal of wandering, especially at night. On the 24th of June he attempted to cut his throat, but the knife was blunt, and he merely divided the skin.

The patient soon, however, sunk under debility and irritation, and, on a post-mortem examination, it was found that the tumour lay on the external and posterior part of the ilium, just above the notch, exactly verifying the diagnosis. It pushed up the veins and the plexus going to form the crural nerve, and also extended inwards towards the sacrum, interfering with the sciatic nerve. The tumour was composed of

a mass of medullary matter, about the size of an adult fist, and exhibited, under the microscope, the characteristic cells. Medullary tumours were also found in the lungs and kidneys. The pulsations seemed to have been due to a ramification of vessels around the growth, which latter had yielded to their impulse. The fracture, which had spontaneously taken place during life, was found to be situated just below the trochanter, and it was evident that a certain amount of callus had been thrown out.

In the course of clinical lectures given on this case, Mr. Fergusson took occasion to say that the man had been sent up from Birmingham as a case of gluteal aneurism. It did not, however, seem to him to be such at first, but rather a case of disease of bone, very vascular, and hence the pulsation which was present in it. It was not, however, actual aneurism of the bone. Medullary sarcoma, we know, is likely to present great expansion, throwing out in various directions the malignant matter of which it is composed, cysts containing fluid or blood being often connected with it.

If a ligature is placed on the internal or external iliac in such cases, we must not condemn the operator, but avoid making the same mistake ourselves. The reasons for supposing the present case to be one of tumour, and not aneurism, were, the man's pallid face, his emaciation, and inability to walk on account of pain, &c. In the worst forms of internal aneurism, patients are not inclined to stay in bed, except in the very last stage, and they do not fall away at all.

Mr. Fergusson, on looking at the man, had said that the pulsating tumour must be more than aneurism; it was, in fact, situated too high to be an aneurismal dilatation, and the muscles were raised above the tumour, which they would not be in aneurism. The case had been sent up for deligation of the common or internal iliac; but he had hesitated, and had availed himself of as many good opinions as it was desirable. Mr. Hodgson, Mr. Stanley, Sir B. Brodie, and Mr. Guthrie, all stated that the disease was obscure, but yielded to the opinion that it was disease of bone, and not aneurism. Nor were the man's weakness and pain, for two years, symptoms of aneurism. Besides, the tumour was situated above the sacro-sciatic notch, out of the way of the gluteal artery. In a common aneurism, the blood can be expelled from the tumour by pressure; but this could not be done in this case, nor did the pressure give the patient pain, which he would certainly have experienced had the disease been aneurism.

Now, if we cannot cure disease, we should not increase it; and errors, which we should strive to avoid, have been made by very great men; but we learn more from mistakes than good treatment. He (Mr. Fergusson) had been asked by a friend, a long time ago, to see an aneurism of the hip, and the case turned out to be a large medullary sarcoma, more vascular than usual, undulating and pulsating wherever vessels interlaced. Since that period, a tumour inside the knee had come under his observation, looking like a growth from the bone; it subsequently began to pulsate, and popliteal aneurism, extending inwards and forwards, was suspected; but Mr. Fergusson looked upon it as tumour of bone.

This case, as we stated on a former occasion, created very great interest at this hospital; for whether aneurism or pulsating medullary sarcoma, it must be looked upon as very rare. The idea of its being aneurism of the gluteal artery was not entertained in town as it had been in the country, for the reasons stated by Mr. Fergusson in his clinical lectures; and every symptom, except the pulsations, pointed on the other hand to malignant disease. Now, it is well known that a ramification of rather large arterial vessels will, according as the tumour is more or less free, give the latter an impulse synchronous with the pulse at the wrist. Cases of medullary disease have been recorded in which the pulsations were very strong; and we would here mention one under the care of Mr. Lawrence, which is related in the seventeenth volume of the "Medico-Chirurgical Transactions:"—

"I was consulted on the 21st of February, 1825, by Mr. K—, twenty-two years of age, about six feet high, with large limbs, light hair, and fair complexion; the latter having, however, a rather pallid and doughy appearance. He had been quite well on the preceding Christmas, and two or three days after had felt pain in the knee. He had been told that this was rheumatic, and would probably go away by exercise; he accordingly attempted to dance it off in the beginning of January, but found himself worse for the effort. He repaired, however, to Cambridge to prosecute his studies; the pain increased, and a slight fulness was observed below the knee.

"When I saw him in February, there was no defined tumour, but an inconsiderable general swelling, with a little redness, more particularly about the head of the tibia. The motions of the joint were unimpaired; but exercise brought on pain,

which went off by rest. Leeches, aperients, and repose of the affected part were directed, and Mr. K—— went back to the University.

"He returned to London much worse on the 4th of March. Pulsation had been felt in the swelling, and had led to the suspicion that it might be aneurismal. There was now an elastic tumour between the bones and below the knee, with general enlargement in the same situation, and slight oedema below. No beating could be felt in the swelling; but the pulsation of both tibial arteries was suppressed, although it was readily and plainly perceived in the opposite limb. The pulse was accelerated, and the tongue foul; there was loss of appetite and costiveness, and the patient obtained very little rest at night. Two surgeons of great experience who saw him were doubtful about the nature of the complaint, but pronounced positively that the tumour contained fluid.

"It increased rapidly, the whole upper part of the leg being enlarged, with a considerable protrusion under the knee. When this part began to project more decidedly, the pulsation of the tibial arteries in the lower part of the limb returned. As the local complaint advanced, the constitutional disturbance increased, in spite of every effort to lessen it. The anterior prominence was now so soft as to make us believe that suppuration had occurred; this opinion being corroborated by the increased pain and redness of the part. Under this impression it was punctured deeply, after consultation, on the 2nd of April, but nothing flowed, except a little blood.

"It was now clear that the disease was a growth of a medullary character, and that amputation, although its result was considered doubtful, offered the only chance of saving life. A small, bleeding fungus slowly protruded from the opening of the puncture. There had been lately slight enlargement of the inguinal glands, without pain.

"After the amputation, which was performed a week or ten days subsequently to the puncture, the case went on most favourably till the night of the sixth day. Mr. K—— had been very well and in excellent spirits; he went off quietly to sleep, and in the night rang for the nurse, who, lifting the sheet, saw a most violent rush of blood from the wound. The patient died without uttering a word.

Examination of the limb and body.—"The head of the tibia was largely excavated by a medullary tumour, [see the case of medullary cancer of the head of the tibia, under the care of Mr. Erichsen, in last week's "Mirror,"] of soft, brainlike consistence, in which there were small deposits of coagulated blood. This growth extended forwards and backwards, being irregularly deposited between the muscles and in the interval of their fibres. It had protruded from the bone just at the division of the popliteal artery, and the passage of the anterior tibial through the inter-osseous ligament. This circumstance accounts for the pulsation felt in the tumour at an early period; for the suppression of the pulse in the tibial arteries, when the morbid growth was confined by the fascia of the leg; and for its subsequent return, when the progress of the swelling through the fascia had liberated the arteries from pressure.

"An absorbent gland, situated close to the artery, and cut through in the operation, was diseased.

"The end of the femoral artery was completely open, without any trace of coagulum or effused lymph. The ligature, with its knot entire, was found in the stump.

"The inguinal glands were diseased; they presented, when cut through, a marbled appearance, from intermixture of white medullary matter with the natural texture of the gland. One or two glands on the side of the pelvis were diseased in the same manner.

"There was a soft medullary tubercle, as large as a gooseberry, in the thin edge of the liver."

But the fact of medullary tumours sometimes pulsating very strongly should not make us forget that actual aneurism may occur, and has been observed by no less a pathologist than Scarpa. It is well known that tumours, be they malignant or not, may be given an arterial impulse either by an artery of pretty large size lying in contact with it, or by the congeries and interlacement of the vessels which permeate the tumour. This latter mechanism seems to have obtained in Mr. Fergusson's case; and we find accordingly, that when the patient was much reduced the pulsations ceased, as the central impulse was too weak to communicate sufficient force to the arterial ramifications pervading the tumour. But actual aneurism of bone may, according to Scarpa, be formed between the surface of the bone and the periosteum. The Italian surgeon has given a well-known example of this pathological phenomenon in his work "On Aneurism;" and we beg to transcribe the description for the benefit of those who may not have the volume at hand:—

"A young countryman, twenty-four years of age, apparently of good constitution, had for a long time had a pulsating tumour upon the spine of the left tibia, about six fingers below the patella. The bone of the tibia formed the base of this tumour, and therefore it was hard at its root; but at the apex, and above the spine of the tibia, it was soft; and on applying the hand, a strong pulsation was felt in it, which raised the hand as a large aneurism does. There was some swelling also behind the tibia and the upper part of the calf of the leg; but the greatest elevation of the pulsating tumour was, properly speaking, upon the spine of the tibia.

"About seven years before the examination, an ox had struck the portion with its horn on that place; a small tumour had afterwards appeared, which, however, some days after, vanished again. No inconvenience was felt for three years, when an indolent, but pulsating tumour rose on the spine of the tibia; it had increased gradually to the size of the fist without confining him to bed. Scarpa was clearly of opinion, that it was an aneurism, but could not determine whether the pulsating tumour proceeded from a wound of the popliteal, or of the anterior or posterior tibial arteries. He was inclined to believe that it was formed by a rupture of the anterior tibial, and that extravasated blood, by resting upon the anterior surface of the tibia and compressing it, had excited the absorption and destruction of a portion of the body of that bone.

"After some delay the leg was amputated above the knee, and the limb having been injected, all the arteries above named were found quite healthy. The aneurismal sac was covered with a network of arterial vessels; and on being cut open longitudinally, it was found full of fibrinous layers, after the manner of aneurisms, and the wax which had been injected was mixed with those layers of blood. After cleaning the aneurismal sac, it was wonderful to see from how great a number of arterial orifices the wax injected into the popliteal artery had been effused into the cavity of the aneurism. Scarpa was of opinion that the disease at first had only been a softening of a portion of the inside of the body of the tibia, followed by an absorption of the substance of that bone from the inner towards the outer side, the periosteum covering it remaining entire, and in a state of perfect vitality; in the second place, that the greater than usual afflux of blood had thickened the periosteum, and greatly enlarged in diameter the arteries of that membrane. From the open extremities of these arteries, the arterial blood being poured in great quantity, and with great impetuosity, in the cavity left by osseous absorption, the periosteum, compressed and thickened, had been converted into an aneurismal sac.

"The man died six years after amputation, the stump, one year previous to death, having been converted into a huge aneurism, which, on being opened, was found full of fibrinous clots, similar to those found in the cavity of an aneurism. The substance of the os femoris had been absorbed through the whole space, from the apex of the stump to the vicinity of the great trochanter; and the absorption was about to proceed, likewise, to the neck of the thigh bone. The periosteum of all this portion of the thigh bone had remained untouched, thickened, interspersed with bloodvessels, very much dilated, and converted into a sheath, which supplied the place of an aneurismal sac."

Another feature of interest in Mr. Fergusson's case is the fracture of the patient's femur, which occurred a short time before his death. Surgeons are, indeed, familiar with spontaneous fracture occurring in persons suffering from syphilis, cancer, rickets, scrofula, and scorbutus. Sir B. Brodie mentions the case of a patient of his who suffered fracture of the clavicle at the spot where a venereal node had become developed. Mr. S. Cooper, in his "Dictionary," quotes a case from Sarazin, a physician of Lyons, in which the patient, who was very gouty, and sixty years of age, broke his arm above the elbow, on putting on his glove. "Dessault," continues Mr. Cooper, "used to speak of a nun at the Salpêtrière, whose arm was broken as a person was handing her out of a carriage. Louis, who was vexed that no union took place, was not a little surprised to find her thigh-bone experience a similar fate, one day as she was changing her posture in bed. It was then learned that she had a cancer in her right breast." In 1837, there was, in the North London Hospital, a woman with cancer in the breast, whose humerus was fractured by the ordinary action of the muscles. A few months before she had been in the same institution for a similar occurrence, and she had previously sustained the same kind of injury in other bones. It is to be supposed, from the foregoing, that union used to take place before another bone gave way. At all events, it is plain that, in the case of medullary sarcoma under the care of Mr. Fergusson, the disease had in-

vaded the femur, which broke on a slight effort being made, and that abundance of callus was thrown out.

Now, the formation of a firm callus, and eventual union after a fracture of this kind, seems at first startling, and looks like a deviation of the destructive and anti-formative tendencies of cancer. But as these cases are put upon record by trustworthy and respected observers, we are driven to suppose that the very fact of the fracture excites an inflammation which, in spite of the malignant disease, gives rise to an effusion of a fibrinous kind, which is soon converted into callus. Or may it not be supposed that the substance which looks like callus is largely contaminated by cancerous matter? However this may be, and whichever may be the explanation of the phenomenon, the facts are well ascertained, and we may even refer to a very recent one, which has been observed at the Royal Free Hospital. We beg to subjoin the case.

ROYAL FREE HOSPITAL.

FRACTURE OF THE FEMUR AND HUMERUS IN A CANCEROUS PERSON, FOLLOWED BY UNION.

(Under the care of Mr. WEEDEN COOKE.)

ELIZA S—, aged seventy years, was admitted, May 27th, 1854, having fallen upon the flag-stones in the Gray's Inn-road.

Upon examination of the right leg and thigh by the house-surgeon, it was found that the femur was fractured a little below the trochanter. The leg could be rotated with great freedom, and some slight crepitus was perceptible, but no shortening of the limb. The patient was seen the same day by Mr. Cooke, who verified the diagnosis of the house-surgeon, and ordered the usual treatment—viz., a long splint, with perineal bandage.

Upon inquiry it appeared that she had had a cancer of the right breast, which has remained in a quiescent state for five or six years; and a few weeks only before this accident occurred she fractured the right humerus, of which there was good evidence in the callus thrown out. The woman had suffered for some time from pain, supposed to be rheumatic, in the right leg, incapacitating her from much exertion.

Being somewhat depressed from the accident and a rather scanty diet, she was ordered at once good food, with porter, and a draught of ammonia and cardamoms three times a day.

Fifteenth day.—Callus thrown out, doing well.

She continued to progress favourably, and at the end of the second month was daily lifted out of bed into an easy chair, but was quite unable to stand, or use the crutches, owing to the weakened arm and affected breast.

The patient remained in the hospital, still unable to stand, for about three months, when she was sent home by railway into Wales.

There was at this time much enlargement of the bone at the seat of fracture, and some pain, though the latter had not been complained of whilst she lay in bed with the splint on. Her general health had improved under the good feeding, and the breast remained as when she came in—viz., a small, hard tumour, with the skin adherent, drawing in the nipple.

From the inability to bear the weight of the body upon the thigh-bones after union had taken place, it was pretty evident that these bones, and perhaps others, had become softened by medullary cancerous deposit, and that the callus thrown out was likewise of this character; so that whilst the poor woman might be congratulating herself that the disease in the breast was dormant, the same fell messenger was in a more occult manner hastening her to her end.

In the fifteenth volume of the "Medico-Chirurgical Transactions," Mr. Salter, of Poole, recorded two cases of fracture of the femur, produced by the very slightest cause, and in both cases the bone had given way just below the trochanter. There was likewise cancer of the mammae, considerable pain in the limb previous to the fracture, and relief from this pain after the accident. Both patients were females advanced in years, and both died from exhaustion a few months after this occurrence.

Post-mortem examination in one case showed a soft, flexible condition of the bone, permitting the easy passage of the knife through its structure, with deficiency of earthy matter, and union at the seat of fracture. In the other case there was no post-mortem examination; "but," says Mr. Salter, "the case was treated in the usual way, and at the end of three months the bone had acquired some firmness."

Sir B. Brodie, in the *Medical Gazette* for 1833, mentions, as we stated above, a case of spontaneous fracture of the thigh-bone in a woman having cancer of the breast. He concluded that union would not take place; but it did so as well as under ordinary circumstances. He likewise gives two cases of fracture

of the clavicle, occurring without violence, in diseased systems, and uniting as in healthy ones.

Mr. Liston had a cancerous patient, who broke several of her bones one after another, and they all united.

Dr. Mason Good quaintly records the fracture of both thigh-bones in an old lady of seventy-two when kneeling in church, and of the os humeri when the attendants raised her for the purpose of removal. "Hardly any constitutional disturbance ensued, and in a few weeks the bones united."

There is a specimen in the University College museum, of commencing union in a thigh-bone, broken in this manner, contributed by Mr. Samuel Cooper; and others in the museum of St. Thomas's Hospital; so that, although disease and old age combined would seem to forbid any anticipation of reparation in the bony structures, experience shows us that *nil desperandum* should be our motto in the most desperate cases. Although the union obtained may not be of that solid nature which would give strength to the limb, and free power of locomotion, (a condition indeed scarcely to be expected, seeing that in all probability the whole bone itself is softened,) still the amount of union suffices to permit the action of muscles upon the bone, and the limb to be raised or depressed; not hanging or dragging as a useless log, which would indeed be the case if no union had been effected.

In all the foregoing cases, cancer had invaded some external portion of the frame, as the breast, and had subsequently affected the nutrition of the bony tissue. Whether these patients had also cancer in any of the viscera is not stated, and can only be guessed at; but we may, at all events, pause one moment, and consider the contrast between cases of this kind, and those in which cancer produces the most deadly ravages in the principal viscera, and leaves both the external regions and the skeleton perfectly free from contamination. Cancer, according to modern pathologists, lies originally in the blood, and becomes manifest in that region which, by some accident, becomes an appropriate *habitat*. When the cancerous growths are therefore confined to the viscera we may perhaps suppose that the latter at some particular period become fit receptacles of the malignant deposits. Look at the following case.

GUY'S HOSPITAL.

MALIGNANT DISEASE OF THE PRINCIPAL VISCERA.

(Under the care of Dr. BABINGTON.)

EMILY G—, aged forty years, a widow, was admitted May 18th, 1853.

About six months before admission, she perceived a swelling just at the angle of the left lower jaw; it gave her but little uneasiness at first; but at length it increased in size, and she was treated at this hospital with iodine in its various forms, in conjunction with sarsaparilla, cod-liver oil, blisters to the neck, scarification of tonsils, and generous diet, with wine.

The patient had not been in the hospital long before other lumps made their appearance, some in the front part of the neck, causing great difficulty of breathing, and others in the abdomen producing tenderness and burning heat.

Shortly after this another complication took place: the tonsils became considerably enlarged, this circumstance causing great difficulty of deglutition. The legs now became cedematous and painful, and the treatment seemed to afford her but little relief. The pulse was intermittent, the tongue coated with a brown fur, and the urine albuminous.

She was ordered chalybeate medicines, in the form of the iodide of iron, with sarsaparilla and generous diet.

But the breathing, after some days, became extremely difficult, and the swelling in the neck and tonsils very painful. All the symptoms assumed, about two months after admission, a very aggravated character, and the poor woman died exhausted after having suffered considerably.

Post-mortem examination, fifteen hours after death.—Body much emaciated; abdomen distended and globular; lower extremities cedematous. The lungs were not adherent, but contained portions of malignant disease, about the size of walnuts, especially the lower lobe, on the left side. The heart was small and contracted, with atheromatous deposit on the mitral valves. The liver was *enormously enlarged*, weighing six pounds and a half, and its whole substance was *infiltrated* with malignant tumours, as was also the gall-bladder. The spleen was very much enlarged, and weighed three pounds and a half; the kidneys pallid, and filled with *malignant deposit*. The stomach was small but healthy. A mass of malignant disease was found in the lumbar glands, which, pressing upon the vena cava, had caused the cedema of the lower extremities. The enlarged glands of the neck were of the same malignant character as was noticed in the lumbar glands.