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LARGE SCROTAL TUMOUR.

NEW PLAN OF OPERATION,

FOR

LARGE TUMOURS.

BY

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THE HISTORY OF THE

REIGN OF

CHARLES THE FIRST

BY

JOHN BURNET

OF LINCOLN'S INN

IN TWO VOLUMES

LONDON

LARGE SCROTAL TUMOUR.

NEW PLAN OF OPERATION FOR LARGE TUMOURS.

P. SMITH, 44 years of age, was sent to me by Mr. Corbally, of Corbalton, M.P. for Meath, on account of an enormous tumour of the scrotum, which descended nearly to his knees; it disabled him by its great weight, and had nearly exhausted his strength by profuse bleeding from large veins on its surface. He was immediately admitted into St. Vincent's Hospital.

His hair and eyes were dark, his colour very pallid, with a remarkably pensive expression of countenance.

The figure of the tumour was irregular, it arose by a pedicle from the pubis and perineum, and expanded in its descent into a huge mass, the widest portion of which was about four inches above its lowest part. The integuments which covered the pedicle were evidently borrowed by traction from the abdomen and groin, and presented four distinct and prominent folds; the skin covering the tumour was smooth—it was marked by numerous large venous trunks which traversed its surface, and lay in furrows easily traceable by the finger. A small ulcer in the integuments over one of these veins, marked the point from which the hæmorrhages had taken place. The left lateral aspect of the tumour, near

its neck, exhibited several trunks of veins larger than swan's quills, running parallel to each other, and, when the patient was in the erect position, projecting in strong relief. When poised upon the hands, it gave the impression of considerable specific weight; its consistence was unequal—its hardest portion was an irregular mass of the size of an orange, of cartilaginous density, and situated about an inch below the left external abdominal ring. The greater portion of the tumour was solid, though not gristly to the touch. At two or three points of the remainder, there was a degree of elasticity closely resembling fluctuation. The situation of the genital organs was as follows:—of the penis, the glans was the only portion visible—it projected from the integuments at a point about three inches below the pubis, the remainder of this organ was buried in the morbid growth. The right testis could be felt about three inches below the corresponding ring, it glided up and down freely under the integuments, and was evidently healthy. The cord of the left side for about an inch of its extent could be felt, but at considerable depth; its veins were enlarged, and it was lost below in the substance of the tumour; this portion of the cord, however, did not appear to contain any morbid deposit. The exact situation of the left testis could not be satisfactorily ascertained. The patient pointed to a spot at the bottom of the tumour, which, from the peculiar sensation he experienced when it was pressed, he believed to contain the testicle; neither the groin nor the abdomen presented any evidence of glandular or other disease. From the pubis to the fundus of the tumour measured 28 inches, the circumference about its middle was 22.5 inches. The weight of this enormous mass was the principal source of inconvenience, and to obviate this, the poor fellow had constructed a bag, which was supported by straps passed over the shoulders and hips.

In the hospital Smith spoke very little, and was accustomed

to sit for hours on the chair by his bed-side, while the other patients congregated round the fire. It was easy to perceive that the nature and situation of his disease had affected his spirits. When questioned about his complaint he was not eloquacious, but his answers showed that it had occupied his thoughts and engaged his constant attention ; for his description of its course, and his remarks on its present condition were unusually clear and consistent for his class in life.

It was ten years, he said, since he first perceived a hard swelling on the cord, the size of a marble, about an inch above the left testicle ; as it was unattended by pain, it gave him no concern, and was allowed to increase in size for four years, when he came to Dublin for advice. After remaining for six weeks in one of the hospitals, he became tired of remedies, and returned again to the country ; the tumour continued progressively to enlarge, until it acquired the size and appearance represented in the annexed sketch.



The last hæmorrhage from the veins of this tumour, amounted, he was convinced, to two quarts of blood. The exhaustion was very great, and rendered him for some time unable to pursue his avocations ; the dread of its recurrence, as well as the hindrance to his business, occasioned by the weight of the tumour, rendered him very anxious for relief. He was now directed to have nourishing diet, and chalybeate medicines were employed with a view to his anæmic state.

In the meantime the tumour was carefully examined by several surgeons of great experience, the majority of whom

were disposed to advise an operation. In this view I concurred, and our opinions were founded on the following considerations:—First, it was obvious to any person conversant with diseases of this sort, that no other remedy, internal or external, could make any impression on the tumour. Socondly, the patient's constitution was gradually yielding under the complaint: his spirits and comfort were destroyed, and his capability of earning a subsistence for his family was materially diminished. He was, besides, in apprehension of a sudden death from a loss of blood such as had occurred before.

Of the exact nature of this morbid growth, various opinions were entertained. Some thought it resembled the scrotal tumour seen in tropical climates; some considered it as essentially a malignant disease, while others were inclined to hope that the elastic portions of the tumour might be considered as indicating the presence of large cysts, the evacuation of which might lead to a favourable result. With respect to the first of these opinions, I remarked, that no portion of the integuments covering the tumour presented any abnormal alteration analogous to the scrotal elephantiasis. Of its malignant nature it was difficult to speak with equal certainty. The different consistence of different portions of the tumour gave the entire a suspicious character, and led me to believe, that, whatever its original structure might have been, it had undergone some change. The entire absence of lymphatic contamination or abdominal tumour afforded a hope, that whatever this conversion might be, it was not yet beyond the reach of operation. The hypertrophy of the superficial veins did not, I knew from experience, contra-indicate excision; I had seen this state on large adipose tumours, when they were pendulous, and I had removed them with complete success. From the history of its progress, as well as the feelings of the patient with regard to the locality

of the testis, it was probable that the tumour originated in the cellular tissue of the cord, and displaced the testicle in its descent.

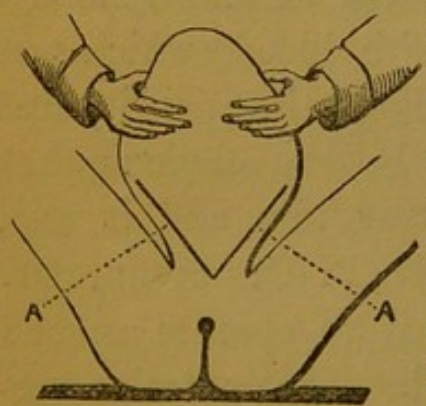
The operation was, therefore, proposed and assented to by the patient, and a day fixed for its performance. Before the time arrived, however, the poor fellow's courage failed him, and he requested to have it postponed. This wish arose partly from a consciousness of weakness, and partly from his believing that some medical gentlemen considered the great bulk of the tumour to be liquid. The latter impression induced him to entreat me, on several occasions, to make a puncture. I could not, however, consent to irritate the tumour by the trochar, unless he was prepared to have it immediately removed, if found to be solid. The experiment might otherwise have cost him his life. He could not make up his mind to the alternative, and he was, of course, not pressed further on the subject.

On my return from a short visit to England, I found him exceedingly anxious to have the operation performed. He had had another alarming hæmorrhage from one of the large trunks of veins. On awaking one morning he found himself in a fainting state, the bed deluged with blood, which was dropping freely on the floor. He estimated the quantity lost at more than three pints of blood. It was obvious that another such hæmorrhage would destroy him, and it was, therefore, with the concurrence of Sir P. Crampton, Dr. Wilmot, my colleague, and others, decided to operate as soon as his powers were sufficiently recruited. The operation was performed on the 29th November, 1844, in the presence of a large assembly. The theatre being spacious and well ventilated, the patient suffered no inconvenience from the crowd. On this occasion I was also honoured by the presence and counsel of almost every hospital surgeon of eminence in town.

My intended plan of operation, by which I hoped to avoid

the profuse hæmorrhage which had rendered these operations always dangerous, and sometimes fatal on the spot, was to place the patient on his back, and to have the tumour poised for a sufficient length of time to empty its vessels, before the incisions were commenced. Some of my friends urged me to give up this plan, and commence the operation in front, by securing the spermatic cord. I objected to this course, because it would deprive me of my best means of avoiding venous hæmorrhage, and besides that when the perineal incisions were to be performed, the parts would be obscured by the blood trickling from the groins.

The patient was now placed in the position for lithotomy, and the tumour was raised and supported by Mr. M'Swiney, so as to keep the integuments over its perineal aspect on the stretch. I was now requested by some of my friends who assisted me to puncture the elastic portion of the tumour with a trochar. Nothing came through the canula but a little venous blood. With a large broad-backed bistoury I now made in the perineum two straight incisions, meeting at an angle, salient towards the anus (as in the annexed sketch).



Keeping close to the tumour, the incisions were carried rapidly round its under and lateral surfaces, exposing on the right side the covering of the testicle which was drawn carefully aside by Mr. Trant, and on the left a bunch of cylindrical convolutions as large as the finger. The effect was startling, and it was asked by some present

whether it could be a hernia through the thyroïd foramen. Their uniform blue colour, solid feel, and entire absence of gaseous contents, at once convinced us that it was an enormous varix of the cord of the left side. The tumour, being now detached as far as possible laterally and underneath, was

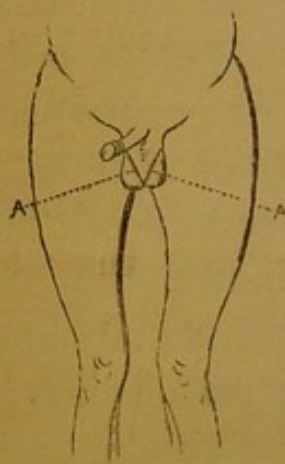
allowed to descend to a nearly horizontal position, in order to complete the operation in front. Two straight incisions, carried downwards from the groins, were made to meet at an angle, so as to include a portion of integument capable of covering the urethra and fitting into the incisions previously made below. The direction of these incisions are visible in the third sketch. Two short incisions connected the limbs of the two angles previously made. The tumour was now rapidly detached, and the cord held by Mr. Fleming was cut across. A few strokes of the bistoury completed the separation of this enormous mass from the body of the patient.

The vessels of the cord and a few small subcutaneous branches were now secured, and the patient was put to bed. The loss of blood was very inconsiderable, not exceeding perhaps four ounces. I cannot say what length of time was occupied by the excision, but I am assured by several gentlemen present that it was completed in eight minutes.

Some warm wine and an opiate were required, on account of the chilliness incidental to the exposure of his person during the operation. After a few hours, the flaps of integument were brought together by sutures, and it was remarkable how completely the painful and aching sensation he experienced in the right testis was removed by the pressure of the flap drawn tightly over this organ. Another fact, interesting in a physiological point of view, was then observed. The integument which for ten years had been drawn over the tumour, had now returned rapidly to its original position, giving the appearance as if the incisions had been made across the middle of Poupart's ligament, downwards on the thigh. The lymphatic glands and cellular tissue in the inner half of the root of the thigh, were exposed to view; when the flaps were brought together, however, these parts were covered again.

The detail of occurrences from this to the period of convalescence, would, although highly interesting, be tedious,

perhaps, if minutely described. About nine days afterwards, and when the wound was looking healthy, a patch of erysipelas was discovered over each tuber ischii. This epidemic was so prevalent at that moment in the city, that every hospital contained a number of cases of the disease. The erysipelas spread gradually down the thighs, and upwards towards the loins, and ultimately reached the shoulders; but fortunately did not approach the situation of the wound. A good deal of fever, and some degree of exhaustion, accompanied this affection. The pulse always rapid, occasionally became alarmingly weak. A slight degree of delirium sometimes occurred at night. The



treatment consisted in Donovan's syrup of bark, ammonia, and a liberal allowance of port wine. After ten days, the erysipelas stopped about the scapulæ, and the fever in a great measure subsided. In two days afterwards, however, he complained of soreness in the occiput, where it lay on the pillow. The integuments were found to be swollen and erysipelatos. From this point the erysipelas spread over the scalp, forehead and face; and after seven or eight days subsided altogether.

During this time the wound continued to heal, and eventually presented the appearance represented in the above sketch.

About the 2nd of January, Smith suffered an attack of rheumatism, affecting the backs of the hands, wrists, elbows, and shoulders. There was swelling, redness, and exquisite tenderness to the touch. The pulse became frequent and full, though compressible; and his skin perspiring freely, emitted the peculiar odour of the disease. Donovan's syrup of cinchona was given in drachm doses, three times a day, and the affected parts were fomented with great relief. He recovered rapidly.

With a view to restore his constitution, already reduced by hæmorrhages, and so to avert the invasions of other illness, he was advised to leave town—his appetite and spirits being better than he had found them to be for years.

EXAMINATION OF THE TUMOUR.

It now remains to describe the appearances exhibited by the tumour on dissection. A loose capsule of condensed cellular tissue enveloped the morbid growth. A section carried through its middle showed that the whole was perfectly solid, and without the slightest appearance of a cyst. The cut surfaces reminded us strongly of the section of the larger varieties of fibrous tumour of the uterus. Whitish, with the slightest possible tinge of yellow, the substance appeared to consist of a number of lobules, separated by lines of condensed cellular tissue, and marked here and there by minute granules of calcareous deposit. The greater number of bloody points presented by the section, however, distinguished its appearance from that of the fibrous tumour of the uterus. Some of the lobules almost resembled in density a section of the intervertebral substance. Others more elastic, appeared to have undergone a change approaching the character of encephaloid disease. This impression was confirmed by Dr. Houston, who found that it presented, under the microscope, the mixture of fibres and cells characteristic of malignant structure. It was in these situations that the deceptive feelings of a cyst had previously existed. The left testis was, after a careful search, found to occupy the position mentioned by the patient. It was atrophied, but otherwise unchanged, and lay inclosed in its moist and polished tunica vaginalis. The cord above it was lost in the tumour.

R E M A R K S .

It is impossible to dismiss this important case without some reflections on the nature of the tumour, the propriety of undertaking its removal, and on the best mode of performing the operation in such cases.

There is but one affection with which a tumour of this magnitude could be confounded—the elephantiasis scroti. The characters peculiar to hernia, hydrocele, &c., would, if they exceeded their ordinary dimensions, be sufficient to distinguish them. The encephaloid diseases of the testis, as a primitive lesion, generally terminates fatally, before it has acquired a fourth part of the bulk of the tumour in question. The fatal event is accelerated by the development of malignant disease in the course of the lymphatics, or in some of the viscera essential to life. In the case of Smith, the enormous size of the tumour, and the situation of the penis, buried in the mass, brought the tropical disease strongly to mind; but it could not fail to be remarked that the prepuce was healthy, and presented none of the warty and tuberculated appearances which belong to that affection. The integument covering the tumour was also free from this peculiar change, and could, in the interval between the varicose veins, be pinched up like healthy skin, showing at once its own integrity, and that of the subcutaneous cellular tissue. The history of its growth was more worthy of credit than those usually given by hospital patients. It commenced, according to Smith's account, about an inch above the testicle, in the form of a small hard lump, pushing the testis downwards as it enlarged. This, together with the peculiar sensation of the presence of the testis at a

point, near the fundus of the tumour, were nearly conclusive of its origin in the cellular tissue of the spermatic cord. The section of the tumour confirmed the opinion of its locality. The anatomical characters of the tumour seem to show that its structure was fibro-cellular in the commencement. All tumours, including even the adipose, are liable to undergo changes, depending on corresponding changes in the constitution of the individual. It is probable that the earliest manifestation of this constitutional change will take place in parts of adventitious formation, being less than others, within the protection of the organism. We are not in possession of facts capable of determining the signs by which the advent of this diathesis can be recognised; but the occasional permanency of health, after the removal of a solitary deposit of admitted malignancy, seems to show that there is a period when excision may be a legitimate preliminary to appropriate medical and Hygienic treatment. Time alone can tell, whether the conversion which Smith's tumour had, in part, undergone, is to be followed by the development of mischief elsewhere.

The propriety of undertaking its removal is next to be considered. There is, I apprehend, a want of fixed principles for the regulation of our conduct, in deciding the question of operation. There can be no real weight in a mere majority in consultation, unless the opinion of each have reference to some common and acknowledged principle. Haste or inexperience might otherwise influence the decision, and an injudicious operation be performed. These considerations have led me to adopt and teach the following rules, which, until better be proposed, shall serve to guide me in these matters. Presuming that a correct diagnosis is made, we should, before proceeding to operate, be satisfied—first, that while the operation offers a reasonable hope of advantage

to the patient no other mode of treatment, internal or external, affords the least prospect of success ; secondly, that the operation be planned for the particular case, both with a view to the immediate safety, and future comfort of the patient.

The case here related wore an aspect so unpromising, that more than one surgeon of eminence said they would not attempt its removal ; and yet the operation was, I have reason to believe, undertaken, in perfect accordance with the rules laid down. No other mode of treatment afforded the least prospect of success ; for whatever may be thought of Mr. Frazer's method in the elephantiasis scroti, no practitioner at all familiar with disease, would think of subjecting a tumour of this description to the irritation of incisions, or the seton. Neither could iodine, or other mineral be expected, even in the highest doses, to promote its absorption. The operation offered a reasonable hope of advantage to the patient, by giving him the earliest chance at our disposal, of escaping the malignant changes incidental to tumours of long standing. It was not contra-indicated by glandular or visceral complication ; and it was in some measure demanded by the constantly impending danger of sudden death from hæmorrhage.

On the second condition, viz., the plan of the operation, I shall now make a few concluding observations. The future comfort of the patient was provided for, by contriving the incision so as to preserve sufficient covering for the urethra, testis, &c., as will be seen in the third sketch. In order to secure his immediate safety, it was necessary to provide against two sources of exhaustion. The first, and most perilous, was loss of blood ; and it would be difficult to imagine a case in which the system had less to spare. The second, was protracted suffering—the continuance of pain

beyond the limits of vital endurance. However influential the latter cause of exhaustion may have been, in producing the untoward result in the case of Hoo Loo, the Chinese operated on in London in 1831 ; it was to the loss of blood that those concerned, and most capable of judging, attributed his death. The time occupied by the operation was an hour and 40 minutes—the loss of blood was about 25 ounces, and what is most material to our present inquiry, 24 ounces of this amount was venous blood. “He breathed after the operation, but it was as much as could be said. Transfusion and artificial respiration were tried in vain.” In this case, the incisions were commenced in front. In Mr. Liston’s case, which recovered, the incisions were commenced in the perineum, but the tumour was depending. The flow of blood is described by this able surgeon to be “so instantaneous and abundant, that it was compared by those present, to the discharge of water from a shower-bath.” The patient rolled off the table on which he had been leaning, without pulse, and the operation was completed on the floor.

Now the loss of venous blood in large quantity, at a moment when another source of exhaustion—namely, pain—is exerting its depressing influence, is manifestly full of peril to life ; and it cannot escape observation, that in both the cases the incisions were made while the venous systems of the tumours were in a state of repletion. It was reasonable, therefore, to expect that an inverted position of the tumour might, in similar cases, lessen the danger and the loss. Every one is familiar with the different appearance presented by a varicose leg, in the depending and inverted position. I had on former occasions applied the principle, in removing large pendulous tumours of the adipose kind, and with considerable saving of blood ; and I have already described the mode in which it was made available in Smith’s case.

The removal of a large tumour is not the only operation in which it might contribute to the security of the patient. It makes it a rule—That wherever circumstances shall permit the horizontal position should be selected, as best calculated to prevent syncope, as well as to assist in restoration if fainting should occur, and that the part to be removed should be so raised as to favour the return of its venous blood, &c. &c. keep it as much as possible in the anæmic state.

The reprint of this Essay has been suggested by the adoption without acknowledgment of the principle of the operation here described.
