

in much the same state. She had constant pain, and some thickening of the bones. The thickening seemed to commence just below the head of the tibia, and extend downwards. Mr. Lawrence still wished to amputate the limb; but, the woman still refusing, she was discharged from the Hospital in December 1858, and was admitted again on January 28th, for the purpose of having the leg amputated. This was done the next day (January 29th), after the manner recommended by Mr. Teale. The woman's health had rather improved since she had been out of the Hospital, but still she was a very unfavourable subject for the operation. She bore the operation better than was expected. The flaps were brought together at the time of the operation, and the junction of the anterior long and posterior short flaps on the back of the thigh united by first intention; the discharge coming from the sides of the limb where the anterior flap is doubled on itself. The woman has not had an unfavourable symptom; but her ultimate recovery is doubtful, as symptoms of phthisis have appeared. The stump is now (March 16th) healed, with the exception of one of the corners, where there is a very slight discharge of pus.

The bones of the leg, when examined after amputation, verified Mr. Lawrence's diagnosis. The cancellous texture was quite soft, broken down, and ulcerated. The periosteum over the whole of the tibia and fibula was considerably thickened; and in two places (1, near the head of the tibia, where Mr. Lawrence had previously removed a growth of bone; and 2, near the lower end of the tibia) the tibia seemed almost fractured, in consequence of a growth of the periosteum into its substance.

CASE II. Robert Ferth was admitted under the care of Mr. Lawrence on August 31st, 1858, suffering from disease of the knee-joint. He stated that, three months previously, he first noticed something wrong about his knee—a little pain on walking. This was followed by swelling of the knee, and increase of the pain. He then applied at the Hospital, and was admitted; and, since his admission, the knee had gradually become worse. He had intense pain, and all the symptoms of ulceration of the cartilages. Numerous abscesses formed in the neighbourhood of the joint. The man's health now began to suffer, and he was induced to part with the limb. Amputation was performed on December 11th, 1859, on Mr. Teale's plan.

This patient's state of health was very bad indeed—a worse subject, if possible, than the former. During the operation, very little blood was lost; but he was extremely faint. Very few arteries could be found to be tied, and consequently the wound was left open till the evening, as probably some more would require ligaturing. Towards evening, some hæmorrhage occurred, and three ligatures were applied, and the flaps were adjusted: they, however, did not fit quite so well as in the former case, the muscles having contracted. All went on well until the evening of December 21st, when secondary hæmorrhage occurred; and Mr. Lawrence, who was in the Hospital, opened the stump, but, not being able to find any vessel, he applied the tincture of sesquichloride of iron over the bleeding surface. The stump has not yet quite healed, as most of the healing process has been accomplished by granulations caused by the disturbance of the stump ten days after the operation. However, all things considered, this case has progressed more favourably than was expected, considering the patient's health, the secondary hæmorrhage, and also the condition of the flap; for the muscles of the thigh were every where riddled with abscesses, and several were opened during the amputation. A granulating surface, of the size of a shilling-piece, is all that remains to heal.

## ST. GEORGE'S HOSPITAL.

### FIVE CASES OF TEALE'S AMPUTATION.

[From Notes by G. F. COOPER, ESQ., *Surgical Registrar.*]

CASE III. William A., aged 31, a groom, was admitted under the care of Mr. Cutler, on September 7th, 1858. His history was, that three years ago he had been kicked by a horse just below the left patella, and that ever since then there had been enlargement of the knee, gradually increasing, especially on the inner side. Three weeks ago, he had been again kicked below the knee on the outer side, since which time there had been pain in the part, and some little swelling, for which linseed-meal poultices had been applied. He had never asked medical advice on account of the disease in the knee. He stated that he had lost flesh for the last seven or eight months;

and that the tumour had been increasing more rapidly during the last three or four.

On admission, there was considerable solid enlargement about the joint, especially on the inner side. The head of the tibia was much enlarged, and the lower end of the femur seemed also expanded. Covering the lower end of the femur; at the inner side, was a soft elastic swelling, which, however, was not apparently movable on the bone, and there was a collection of fluid projecting between the heads of the tibia and fibula, and touching the tendon of the biceps. Pressing the bones gave him no pain; but there was a little shooting pain in the joint occasionally. He could only bend the joint to a very slight extent; but the limb was quite useful, both for walking and riding. The glands in the groin were slightly enlarged, and had been so for some months. His aspect was healthy, and his health and appetite were good, except for the loss of flesh above mentioned.

After a few days rest in bed, during which the size of the knee somewhat decreased, the collection of fluid near the tendon of the biceps was punctured with a grooved needle. No pus was found, and the fluid appeared to resemble synovia. Accordingly the case was treated as if it were merely irritation of the joint, consequent on chronic inflammation of the joint ends of the bones; although the peculiar sensation of the soft swelling covering the lower end of the femur, led some to suspect the existence of a tumour in that situation. He was put under the influence of mercury, blue pill and opium being given till the gums were slightly affected; and a succession of blisters were applied to the knee. This course of treatment, however, produced no improvement; and by the end of October it became evident that the diseased joint had increased in size. There was also increased tenderness referred to the lower part of the joint.

As it was clear that the disease was not amenable to treatment, and as the limb was an incumbrance to the patient, it was determined to remove it before his health became further affected. Accordingly, on November 11, Mr. Pollock proceeded to amputate.

The amputation was performed after Mr. Teale's method. The circumference of the thigh having been measured at the part where the limb was to be removed, and a base of half that length taken, a lateral incision was drawn down the limb on each side from the extremities of this base, equal in length to the base; the lower ends of the cuts were then joined, and the soft parts dissected up from the bone. Then the posterior flap was made by drawing the knife perpendicularly across the back of the limb an inch below the base of the anterior flap. The arteries were then tied, and the flaps adjusted by sutures. The operation took rather longer than an ordinary amputation; but the stump which was left was very shapely, and the edges fitted most accurately.

On examination of the knee, the swelling over the lower end of the femur was found to be composed only of the thickened synovial membrane and cellular tissue; the ends of the bones were somewhat enlarged; the joint was full of strumous looking curdy pus. The swelling near the tendon of the biceps now contained pus. It was in connection with a rather deep cavity excavated out of the external tuberosity of the tibia, close to the head of the fibula, but not involving the tibio-fibular articulation. There were several other such cavities in the articular ends of the bones, the deepest being situated between the condyles of the femur. They contained pus of similar appearance to that above described, and a few small spiculae of dead bone. The cartilages were removed in several places, especially over the outer condyle of the femur. The ligaments were healthy.

On the 15th, it was found that a large part of the stump had united by the first intention. The sutures were removed, and the parts had contracted sufficient adhesion to allow of the stump being left without any other dressing than a piece of lint spread with simple ointment. No strapping was used.

On the 16th, he was complaining of slight pain in the right elbow, which he attributed to rheumatism; the parts over it looked red and hot. He said he did not sleep very well the previous night—had been subject to rheumatic pains. There were occasional cold chills during the few following days, but no distinct rigor.

The right wrist, and the knees and ankles in succession, were slightly swollen and red on their surfaces. He now complained of much pain in the chest, and there was much coarse respiration on the left side. Small doses of calomel and Dover's powder repeated several times, appeared to relieve these symptoms entirely; and he continued to improve until he quitted the

hospital. The stump was then nearly well. After leaving the hospital, the chest symptoms returned, and he died two months afterwards, phthisical.

CASE IV. Henry B., aged 38, was admitted under Mr. Hawkins's care, on September 1st, 1858, on account of a disease of the knee-joint, attributed to a sprain eighteen months before admission. It is unnecessary to go minutely into the history of the disease in the joint, which was treated by means of calomel and opium, blisters, mercurial frictions, etc., but without any benefit, as abscess formed and was opened externally, as well as extending up among the muscles of the thigh for a considerable distance. Accordingly, it was thought better to amputate the limb at once. He had had a cough for three years before his admission, but not to any very great extent. Examination of the chest did not reveal any distinct sign of phthisis. The operation was performed on January 6th. Notwithstanding the presence of abscess in the soft parts which formed the anterior flap, a good deal of union occurred; and he went on so favourably as to be able to sit up in a chair a fortnight after the operation. This improvement in the state of the parts was, however, coincident with a great deterioration in his general health. The cough recurred, his health failed, and on the 24th, the posterior line of union began to slough. This sloughing advanced rapidly down to the bone, which became exposed, and was apparently in process of necrosis. He became rapidly exhausted, but without much cough, and sank on February 4th. Shortly before death, the anterior part of the stump began to present a sloughy appearance, as if the end of the bone was about to penetrate it.

POST MORTEM EXAMINATION showed extensive gangrene of the stump, so that the end of the femur projected from the opening at the back. It was necrosed for the space of about half an inch. Both lungs contained a large quantity of crude tubercle, but no vomicae. There was extensive strumous ulceration of the intestines.

CASE V. Henry H., aged 55, was admitted under the care of Mr. Tatum, on December 11th, 1858, on account of an accident in which a bullet had lodged in the dorsum of his foot, between the first and second toes. This had been extracted. He was an exceedingly nervous and irritable man, and presented the appearance of a drunkard, although it was said that his habits had been temperate. A large quantity of stimulants and tonics was prescribed, but the wound became sloughy, diffuse inflammation attacked the foot, and large abscesses formed in every part of the extremity. Under these circumstances, as the man was evidently sinking, it appeared right to give him the chance of amputation; and accordingly, the extremity was removed by the rectangular flap operation in the lower third of the leg, on January 27th. The arteries were found only slightly atheromatous, and there was no apparent disease beyond the superficial sloughing and abscess.

There was nothing remarkable in the operation, and the ends of the bones were well covered, without pressure; but the patient's state of health was such that no operation would probably have succeeded. The flaps soon sloughed, and he died exhausted on February 12th. No *post mortem* examination was made.

CASE VI. Charles H., aged 13, a boy of very scrofulous aspect, was admitted under the care of Mr. Johnson, on account of caries of the tarsal bones and ankle-joint of six years standing. Some necrosed bone had been removed about a year before, but this had not checked the disease, which had now advanced to such an extent that amputation was inevitable. The presence of extensive sinuses about the lower part of the leg rendered Mr. Johnson unwilling to adopt Syme's method of amputating, and accordingly the leg was removed in the lower third by the rectangular flap operation, on February 17th. The success of the operation was perfect, and the boy left the house within less than three weeks of the date of amputation (March 9th) with the stump completely healed.

CASE VII. Thomas H., aged 46, was admitted under Mr. Hewett's care on February 14th. He had been a man of very intemperate habits, and had been suffering from disease of the tarsus for nine years. The disease had at first so far yielded to treatment as to allow of his walking about from three years after the commencement of the ailment until last October, although the joint had never been free from pain. At that period abscesses formed in various parts of the foot, from which, on his admission, raised papillæ projected, leading to exposed and carious bone. As his health was giving way under the disease, and as the latter was too extensive to allow of any hope of cure by milder means, and he was anxious to have the leg amputated, Mr. Hewett acceded to his wish, and

removed the leg at the lower third by the rectangular flaps on February 17th. The man, however, did not do well. Although he suffered very slightly from the chloroform, the limb soon became painful, and inflamed. He was very low and weak, with an anxious countenance, bad appetite, dry tongue, and weak pulse. The stump soon afterwards sloughed, but not to so great an extent as not to leave a very fair covering for the ends of the bones when the sloughing stopped, as it did in a few days, when he experienced a temporary improvement. But this did not last long.

In the early part of the present month, he began to suffer from cough, having had an old winter cough for many years, and soon the stump again began to slough; the discharge was profuse and intolerably fetid. Still the bone was not exposed, and had it been possible for him to have recovered, there would have been quite enough soft parts to cover the bones. His constitutional weakness, however, rendered this impossible, and he sank gradually, without any fresh symptoms, dying on March 26th, apparently of exhaustion merely.

A *post mortem* examination was refused.

## Original Communications.

### FOUR CASES OF VESICO-VAGINAL FISTULA.

By I. BAKER BROWN, Esq., F.R.C.S., Surgeon to the London Home for Surgical Diseases of Women, etc.

SINCE I had the honour of reading at Edinburgh a paper relating eleven cases successfully treated by operation, five more have appeared in the BRITISH MEDICAL JOURNAL, under the head of St. Mary's Hospital Reports; thus making sixteen cases. I now relate four more, making up the number to twenty. The practical value of this success will be apparent to every surgeon.

CASE I. (Reported by W. F. Wratlaw, Esq., Visiting Surgeon.) *Vesico-Vaginal Fistula of Seven Years Duration: Twenty-five Operations: Ultimate Cure.* Eliza Z., aged 29, married, in July 1851 was delivered, with instruments, of her first child, after a labour of three days duration. Twelve hours after labour, her urine escaped involuntarily, giving her great pain. On April 29th, 1852, she was admitted into St. Mary's Hospital. On examination, the vagina was found to be almost obliterated by cicatrizations. On the left side, the finger passed into a *cul-de-sac*, at the end of which was felt the os uteri. Across the other part of the vagina was a large fistulous opening into the bladder. On May 5th, I operated upon her, and closed a large portion of the fistula. She then left the hospital; and becoming pregnant, aborted in the third month. Five weeks afterwards, she was readmitted; and the second, third, fourth, fifth, and sixth operations were performed upon her, in addition to the actual cautery being used. During these repeated operations, the bands of cicatrization were cut through, and the os uteri turned into the bladder, as it appeared easier to close the fistula by so doing. She then left the hospital; and the seventh, eighth, and ninth operations were performed at her own house. She then went to Dover to recruit her strength; and when she returned, the tenth operation was performed at her own house. In 1854, she returned to the hospital, and the eleventh operation was performed. On November 1st and December 24th, 1856, she had the twelfth and thirteenth operations performed at her own house. On February 3rd, 1857, she was readmitted into St. Mary's Hospital, and the fourteenth operation was performed. After this, she went into another hospital; and in August, was operated upon with harelip pins, and in November, with common sutures. She was readmitted into St. Mary's on April 5th, 1858, and I performed the seventeenth operation. On April 28th, the eighteenth operation was performed. On May 19th, Bozeman's operation was performed, making the nineteenth. This did not succeed; and she was discharged on June 20th, to recruit her general health.

She entered the London Home, on July 3rd, 1858. There still remained two openings: one would admit a No. 12 bougie situated near the urethra; the other was a small one, barely admitting a probe. There was a strong band of adhesions, extending from the walls of the vagina to the point of the larger opening.