

aperient. His expectoration clear and frothy, but free from blood. On examining the chest by the stethoscope, the air was found to enter freely and rapidly on the left side, but a hesitation or delay occurred to the passage of air into the cells on the right side, conveying an idea of some obstruction to its admission, as if resisted by some foreign body, the expiratory murmur being longer than the inspiratory. The pulse soon after this fell to 80, but in a day or two again rose to 100, when the expectoration again showed a few specks and streaks of blood. He complained of pain and weight over the upper part of the right lung where the breathing was a little tubular, indicating again some consolidation from tubercular deposit. A few leeches and a cupping-glass were applied; the aperient was repeated, and for the lead were substituted nitrate of potash and digitalis, with a view to act on the kidneys, and to control the heart's action; and the opiate was discontinued to avoid confining the bowels.

This appears to be a case of tubercular deposit in its earliest stage, the deposit being confined to the right lung, and being at present so limited in extent as not to have set up alarm in the constitution, the processes of nutrition not having as yet been interfered with. This man will be liable to returns of hæmoptysis, the severity of which would probably be heightened by any violent or unusual exertion. He will, sooner or later, be the subject of pulmonary consumption. His interval of tolerable health will be regulated by the favourable or unfavourable circumstances which may attend his life, and in a great measure on the care and treatment of symptoms as they arise.

A certain degree of relief for a time from his alarming symptoms may result from the equilibrium of the circulation through the lungs being, in a measure, restored. It is possible that the tubercular deposit has taken place rapidly, presenting a sudden obstacle to the transmission of blood through the lungs. A large withdrawal of the functional powers of a vital organ may be compatible with continued life, when the change takes place gradually, and the system has time and power to accommodate itself; but sudden interferences of a much slighter character will destroy life before the system has had time to accommodate itself to the change.

I shall now direct your attention to a case in which hæmoptysis occurred in a later stage of pulmonary consumption—that of S. B—, in Carlisle ward. This young woman, aged nineteen, has been received into the house more than once during the last year, with symptoms of phthisis so obviously marked that “he may run that readeth.” On receiving partial relief she has been discharged. During her former admissions there were some appearances of spitting of blood, and this symptom has now become more grave and constant. The blood she spits is still only small in quantity at a time. It appears in specks and streaks, mixed with much purulent and offensive expectoration. The blood is florid. Her cough is most distressing, loud and frequent, and she suffers from the constant effort to vomit during the paroxysms. The case last considered was one of obstructed circulation through the lungs, and consequent exudation of blood through the membranes: in this case the blood is not only obstructed by tubercular deposit, but also escapes from the vessels in the immediate neighbourhood of the tubercles, the vessels being perforated by means of the ulceration which has taken place in the process of the softening of the tubercles and the breaking up of the lung. The chest in this young woman is nearly immovable, and to this circumstance may perhaps be attributed the slow progress of the disease. Adhesion of the lungs to the chest controls the movements of the lungs during respiration, keeps the organ quieter, and thus avoids irritation of diseased surfaces. The vomiting is a usual and marked symptom of pulmonary consumption. This may be referred partly to the expectoration dwelling about the fauces, but arises chiefly through the medium of the association, by nervous influence, of the throat, lungs, and stomach, which is effected by the pneumogastric nerve, and is a reflex act.

In the treatment of this form of hæmorrhage, palliatives are the only resource. Opiates to allay the irritation, and occasional local means to repress the attacks of pleuritic pain; a single leech to relieve the action set up at points where tubercular matter reaches the pulmonary pleura, exciting and giving rise to adhesions; or a liniment of chloroform and opium may also be used to subdue the pain till adhesion takes place. To restrain the hæmorrhage, and to prevent as much as possible the offensive character of the expectoration, alum is excellent. Creosote is also found useful; it seems especially indicated in these cases. It is not only a deodorising agent, but stays sickness, and seems generally to palliate symptoms. If one searches

for a reason for this palliation, I should give the following:—The lung having lost its power, from want of space to throw off the carbon of the blood, the oxygen present during respiration remains free to damage the structure; creosote, therefore, being chiefly carbon, is offered to the oxygen, neutralising the bad effects of the latter. Creosote is, in another form, the old tar water of the last century, which had a fashion without an explanation. Many remedies are taken up from good experience, but laid down because they are not explained. I only deprecate the present fashionable quackeries, as cod-liver oil, &c., because they can be explained, and the reason has been found insufficient.

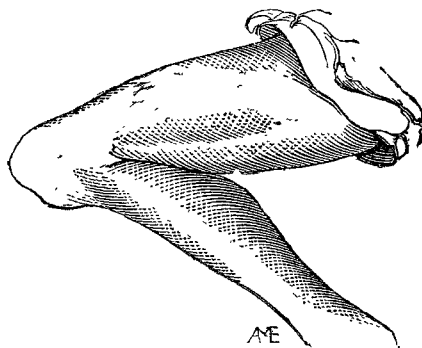
(To be concluded.)

REPORT OF CASES OF OPERATIONS AT THE KNEE-JOINT.

By A. M. EDWARDS, Esq., F.R.C.S.E., Edinburgh.

THE following cases may be worthy attention, as they illustrate the power of surgery to remedy deformity or disease, or both combined, of the knee-joint.

The first case is that of M. C—, aged twenty-three, a stout, healthy young man, who came under my care last May. Three years before he had fallen from a horse, and sustained a compound dislocation of his left knee-joint. He was treated at a public hospital, where, however, no effort seems to have been made to readjust the displaced bones, and, after eight months' confinement to the ward, he left the hospital, with his limb in the condition I shall endeavour to describe, viz.:—The leg displaced backwards, and firmly ankylosed to the thigh, as seen in the woodcut; the femur projects at least three

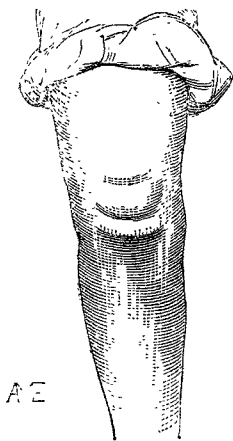


inches beyond the tibia; the patella is resting upon the condyles of the femur, and quite immovable. In the popliteal space the tendons are collected together, presenting the appearance of one thick cord. Anteriorly, the skin over the projecting portion of the femur is thin and tense, of a bluish colour, and tender to the touch. The thigh has a peculiar bowed appearance, and it, as well as the leg, have evidently not grown in proportion to the other limb; but they are still very muscular, the calf being round and firm. His chief complaint is of the awkward projection of the femur, which, he says, is constantly meeting with blows or abrasions, and it is too tender to allow him to wear a wooden leg. He has also been obliged to give up driving a market-cart his friends obtained for him, owing to this unfortunate liability of the deformed limb.

As the left lower extremity was altogether shorter than the other, and as endeavouring to straighten it by operation would necessitate a very severe proceeding, the result of which I thought might very possibly not compensate for the attendant risk, I suggested amputation. This he at once declined submitting to, saying that “if the lump o’ bone” were once away, he did not care about the shape of his leg, for which, however contemptible in other people’s eyes, he had evidently a decided partiality, and desire that it should remain attached to his person. I therefore consented to straighten his limb, and with that view, after he had been brought under the influence of chloroform, I made an incision on each side of the former situation of the knee-joint, in a curved direction; I then joined these two incisions by another across the most prominent part

of the femur. Having dissected the skin upwards and downwards, I saw through the anchylosis between the tibia and femur, and by a few touches of the knife freed the bone at the back part. I then removed the condyles of the femur, and tried to straighten the limb, but the hamstring tendons were unyielding; so, passing a probe-pointed bistoury on my finger, I divided them one by one, being very cautious not to touch the popliteal vessels. I now put on gradually increased extension, and straightened the limb, bringing the sawn surfaces of the tibia and femur into apposition. One or two small vessels required ligature, but the chief hæmorrhage was from the bone. Having stitched up the flaps, and applied water dressing, I placed his leg on a Macintyre splint, and suspended it in a Salter's swing. He did not complain of much pain after the operation, and had not more constitutional disturbance than might be expected after such a proceeding. He was, however, a most unruly patient, and the satisfactory result is mainly owing to the assiduous attentions of my pupils, Messrs. Mac-kinnon and Nunn. The only difficulty connected with the seat of operation was, that with the motions of the body the femur changed its relation to the tibia, and was inclined to protrude outwards through the recently-healed wound.

About the third week a small abscess burst, from which I pulled an exfoliation, apparently from the edge of the femur. A long thigh splint, adapted to the Macintyre, fixed his trunk very efficiently; but, unless closely watched, he would remove it during the night. In nine weeks he was able to go about on crutches, with a leg of which the second woodcut is a sketch. It is, of course, considerably shorter than the right,



but is very shapely, and, by flexing the sound leg, he can, when tired, rest the weight of his body upon it. The seat of union is quite rigid, and, with a high-heeled shoe, it promises in time to be a serviceable limb; if not, it will then be quite time enough to remove it by amputation at the thigh.

I have stated the history of this case shortly, because any practical surgeon can easily imagine the circumstances attending an illness after such an operation and during convalescence. I must say that I undertook the task of endeavouring to straighten an already shortened limb somewhat reluctantly, and many will no doubt, even at the present day, question the propriety of the proceeding. It is surprising that after the great results of the operations performed by Dr. Barton, of Philadelphia, surgeons in this country have been so reluctant to follow his example. The probable reason is that the deformed limbs are nearly all more or less wasted, and it is only within the last few years that surgeons have begun to doubt whether even a shortened limb is not preferable to an artificial substitute of wood or cork. In the case I have related, Dr. Barton's plan—viz., removing a wedge of bone and gradually straightening the limb, would not have been sufficient, owing to the great displacement of the tibia backwards. In cases where the disparity in size between the limbs is not excessive, I should certainly be inclined to repeat this operation, especially in females, in preference to amputating at the thigh.

CASE 2.—C. B.—, aged five, a small delicate child, with fair hair and large blue eyes, met with an injury to the left knee-joint at the age of two. The joint rapidly swelled, abscesses formed and burst, his health gave way, and at last a well-known surgeon in this town condemned the leg to amputation above the knee.

In June, 1857, I was consulted about him, and found the limb in this condition: The joint was much enlarged, the leg bent at a right angle to the thigh, with very slight mobility. Sinuses discharged on each side of the joint. There was a languid ulcer on the front of the tibia, which looked as if it

were connected with the bone. This right leg is healthy, but wasted. He has never walked for more than two years and a half; he is of a pasty complexion, with white lips; has no appetite, and his rest is disturbed by painful startings of the diseased limb. The disease was evidently more extended as regards the tibia than I should have wished; but then something must be done for the patient, and he did not seem a fit subject for amputation at the thigh. His bloodless condition, flabby wasted tissues, and want of vital energy generally, rendered him a bad subject for any operation; but being obliged to choose one, I selected that I consider more useful in result if successful, and less severe in immediate constitutional effect—namely, excision of the joint.

Accordingly, after a few days' further observation of his condition, I performed the operation with the usual H incision, and found, as I had expected, the tibia more deeply involved than perhaps some of the advocates of this operation would have approved of. From the centre of the bone, a sinus, filled with gelatiniform substance, extended downwards for about three inches. I scooped out its contents, and with my gouge made an opening in the wall of the tibia, so as to communicate with and be a counteropening to this sinus. A piece of lint passed through it, leaving the end hanging out of the external wound. In this case I sliced off the condyles of the femur and the corresponding surfaces of the tibia; also the diseased tissue in the neighbourhood of the joint. The patella was removed. I had a box made with a long splint for this little patient, but the parts lay so well together that I contented myself with a looped bandage. The limb was swung to a common cradle. The operation occupied but a very few minutes. No blood was lost. The child was in bed, and, when he awoke from the chloroform, was unconscious of anything that had passed.

There is really nothing of interest in the after-treatment of this case. No fever ensued, and but little pain. At each dressing the lint in the tibial sinus was partially withdrawn, and the consequent easy discharge of the matter from between the bones allowed the lateral and transverse wounds to heal very rapidly. Gradually the discharge lessened, and five weeks after the operation I could not get a probe to enter. The little languid ulcer over the sharp edge of the tibia now alone remained, but under stimulating lotions it put on a more healthy aspect, and is now (November) almost skinned over. Eight weeks after the operation the child was taken out for a drive; his health has improved, and the diseased limb is daily becoming more useful. The union between the tibia and femur is firm; the shortening not quite one inch. There is no pain, and he can rest perfectly upon the limb, the principal drawback being that the sound leg, from long disuse, is unable to be of that assistance to its neighbour which we generally find so useful when patients begin, after resection, first to walk with crutches and then with a stick. Twelve weeks after the operation the boy, by leaning his hand against the wall, followed his mother along a passage into another room. For two years and a half previously he had been carried from place to place.

I had no difficulty in this case with the femur, and found the flexible back splint keep the parts excellently in place; the limb was swung to the cradle by strips of bandage. The shifting of the femur is undoubtedly the great difficulty in the treatment of a restless patient, and was particularly so in the case of a boy operated on by Mr. Fergusson, in King's College Hospital, when I was house-surgeon there.

Mr. Fergusson suggested the long splint, and I had one fastened with hooks to a Macintyre. This contrivance proved much more satisfactory than the boxes which had been used on previous occasions; and as the cases of resection were more numerous, became the established splint; it is, slightly modified, described by my friend, Mr. Price, in his papers on this subject. The swing I consider very valuable, especially in the case of a child. If Salter's appears too large, or is not at hand, any one of ordinary ingenuity can extemporize a substitute. There is one thing of still more importance, which I am glad to see Mr. Butcher's powerful pen condemning—that is, too soon and too frequent dressing; the limb is, to all intents and purposes, a fractured one, and yet I have seen a surgeon, who would not have moved a broken leg under the circumstances, dress and undress a case of excision of the knee as a little girl does her doll. As to the operation, I shall only remark upon the necessity for complete removal of the diseased portions, and that the surfaces left by the saw should be clean and accurately adjusted. I may illustrate this by the accompanying woodcut of a preparation for which I am indebted to my friend, Dr. Myrtle, of Polmont. The history, sent with the bones, is the following:—



A. S—, aged thirty-three, a miner, consulted me about eighteen months ago, regarding his knee-joint; on examining which, I came to the conclusion that he was suffering from caries of the articulating surfaces of that joint to such an extent as to render it necessary either to amputate the limb or attempt a cure by excising the joint. Having had some conversation with Dr. Brotherston regarding the latter operation shortly before this patient came to me, and believing this to be a favourable case for that operation, I sent him with a note to one of the surgeons of the Royal Infirmary of Edinburgh. He remained in that hospital several weeks, and getting tired of it returned home, having undergone no operation. His knee got worse, and he placed himself under the surgeon of his collier. About the middle of October, 1856, that gentleman proposed to excise the knee joint, which he did on the 31st of October, a medical friend and myself being present.

On laying open the joint, we found the patella firmly adherent to the femur, the end of which was rough and denuded of its cartilage to a considerable extent. The outer half of the head of the tibia was excavated by caries to the depth of half an inch, and the head of the fibula was rough and gritty. After removing about three-quarters of an inch from the femur, and above an inch of the heads of the tibia and fibula, the parts were brought together, the patella being left, the limb was placed on a splint with a very slight double incline. The case at first promised to do well; one or two abscesses formed, which were opened, and in three months the man was sitting by the fireside; but he made no further progress, and in April, 1857, began to lose flesh; the discharge from one or two fistulous openings increased. He continued to lose strength, but would not submit to amputation, which was urged upon him, till the beginning of July, when he begged me "to come and

cut his leg off." He was now hectic, sleepless, and had a severe diarrhoea. I requested Dr. Girdwood, of Falkirk, to meet me in consultation, and that gentleman concurring with me as to the propriety of amputation, I amputated the limb in the lower third of the thigh, Dr. Girdwood and his son assisting me, by a combination of the circular and flap operations. In three weeks the patient was on crutches, and in three months he resumed his ordinary employment.

Now, this will be registered as a case in which resection did not succeed in saving the limb, and risked the patient's life for no good end. But I beg the attention of surgeons to the accompanying cuts, which are strictly accurate, and the cause of the ill success will, I think, then appear to them as it does to me, that not enough of the bones was removed, that it was a partial operation, that the obliquity of the section of the femur backwards and upwards would cause distortion or acute flexion of the limb if the osseous surfaces had been placed in apposition; but Dr. Myrtle, who was present at the operation, says, "the limb was placed on a slight double incline." Therefore there must have been a considerable gap between the surfaces of the tibia and femur. The oblique direction in which the saw was carried, leaving the patella adhering to the femur, must have been a far more difficult performance than sawing the bone straight across, as ought to have been done. There was no want of skill in the use of instruments; but the dexterity was somewhat misapplied, which was unfortunate, not only because it disappointed the surgeon and his patient, but as it may tend to retard the general introduction of this very excellent operation into a part of her Majesty's dominions where at present it is rather unpopular and very rarely performed.

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REPORT OF CASES IN THE ROYAL MATERNITY CHARITY,

WESTERN DISTRICT.

By J. HALL DAVIS, M.D.

PHYSICIAN TO THE ROYAL MATERNITY CHARITY, AND TO THE ST. PANCRA'S INFIRMARY.

(Concluded from p. 384.)

In the 12 cases of hæmorrhage following the birth of the children,—in the three cases appearing before the placenta came away, the afterbirth was at once removed; cold and pressure applied. In one of these three the umbilical cord was broken by the fall of the child under precipitate birth, the patient at the time standing, in which posture she was found when assistance reached her. In two of the three there was morbid adhesion of the placenta, which required artificial detachment. All these patients did well.

In the nine cases of flooding, which set in after the removal of the placenta, in all the placenta had come away entire; the flow, with one exception, resulted from a relaxed state of the uterus. A draught of cold water was given, cold applications made to the vulva, and a firm bandage and compress applied. In one case convulsions appeared, seemingly from the loss of blood, and brandy was required to sustain the patient. In one, the labour, primiparous, had been only of an hour's duration. In one case, the hæmorrhage, which appeared on the twelfth day after delivery, was of the active kind, not proceeding from a relaxed uterus. The patient had been much distressed and excited by a seizure of her furniture for rent. She was at length greatly reduced by the flooding; but with an adequate supply of nourishment and stimulants obtained for her, and with the help of tonics, she was restored to health.

One case of passive hæmorrhage which supervened after the attendant left, proved fatal by exhaustion on the twelfth day after delivery.

In the case of *puerperal convulsions* before and after delivery, in a primipara, aged nineteen,—the os uteri was at first very little dilated; the pulse hard, full, and bounding; the tongue had been wounded during the convulsive action of the muscles of the jaw. The patient's previous health had been apparently good; there had been no ascertainable cause of excitement beyond that of a first gestation, and she was not of a robust habit, or of that appearance and conformation considered as predisposing to this disease, in common with apoplexy. I could not in this case, as I have sometimes traced in others, find that it had originated in any mental emotion. It appeared afterwards that the bowels must have been neglected before labour. The treatment consisted of venesection, purging, the application of cold to the head, and delivery by the forceps, as soon as the os uteri and genital passage would permit of their employment. The child was still born; the placenta came away easily. The convulsions returned after delivery, but in less violence than before, and continued more or less for five days. The nape of the neck was blistered; cold applications were made to the top and front of the head, according as they were indicated; the bowels, which appeared yet loaded, were freely relieved by enemata and by calomel with croton oil. The patient had a good recovery.

In the case of *rupture of the uterus and vagina*, which occurred in March, 1857, the patient's age was thirty-six. It was her ninth labour. The child was born by a head presentation, a female, and not large. The labour was rapid. The "waters" had escaped at two P.M.; labour did not set in till six P.M.; indeed, at half-past four, the os uteri was ascertained to be closed, and the patient was left sitting at the tea-table with her family, not yet complaining of pain. Not till a quarter-past eight was the midwife sent for, on active pains commencing. She arrived at half-past eight, and found the child lying dead on the bed in a pool of blood. The flooding continued, notwithstanding cold applications and bandaging, till near the patient's death, which took place at about ten o'clock the same evening.