CLINICAL LECTURES

ON
ANTISEPTICISM IN SECTIONS AND
RESECTIONS.

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LECTURE I.

GENTLEMEN,—It may be that the title of this lecture will strike you as somewhat fantastic, but I think when I have finished what I have to say, you will see that it expresses, in as short terms as possible, the gist of the subject matter. I propose, then, firstly to relate to you some cases of section of bone, or, as it is also termed, osteotomy; then certain resections of joints; lastly, I shall gather together the results of a number of major operations, and show you what effect antisepticism has had upon my practice.

Osteotomy is by no means a novel invention. But endeavour has only of late years been made to render the method of its performance such as to ensure, or almost to ensure, rapid and easy recovery. The operation is not like many that we have to perform, necessary for the preservation of life, or even of health; it is undertaken for the cure of deformity or of inconvenience. As such, it is above all things requisite that we should be able to secure very great freedom from danger, and this is only to be done by the avoidance of suppuration. The patient, after the surgeon has done his work, is left with a compound fracture—the broken bone lying very deeply—and if, in this depth, pus form, the patient may perhaps escape with his life, but only after long illness and much suffering; or he may die, exhausted by discharge and pain. Now, this avoidance of suppuration may be aimed at by making only a very narrow and valvular wound through which to introduce an instrument for division of the bone; such instrument being either a saw set on a long stalk, or a chisel. Certain writers speak of these operations as subcutaneous; it is not my wish to quarrel with a mere word, yet a well-established term should be kept to its legitimate meaning. A subcutaneous operation is one performed through a little puncture of the skin; it certainly is possible to introduce a saw capable of dividing a large bone through a small wound but not through a puncture; while the in and out movement of the instrument, obviating exclusion of air, is quite contrary to the idea of subcutaneous surgery. To call the removal of a wedge of bone a subcutaneous operation, is to give language an elasticity beyond all warranty. The chisel, which has the advantage of leaving no sawdust behind it, requires a rather larger wound than the saw.

Of those operated on with the saw, about 9 per cent. have died; some escaped by the skin of their teeth after long suppuration; a very great majority have done well. Yet the results are not sufficiently favourable to recommend to my mind that form of operation. The chisel, on the other hand, has proved a more satisfactory weapon. Mr. Maunder and myself have used it in several cases without fatal issue; a little suppuration followed, I believe, in one of the former gentleman's cases. All the operations above referred to, except my own, were performed either high up in, or at the neck of, the femur.

Professor Volkmann was the first to apply antisepticism to osteotomy, and to employ it in the neighbourhood of the knee-joint. To me belongs the priority in England of using that method of operation, and of applying it to the species of deformity which results from ankylosis at the knee. For I have often considered that the removal of a wedge of bone in such cases is a severe measure, and generally, unless disease also be present, hardly a warrantable one. It is probable that section of the bones, if the operation prove equally favourable in other hands, will supersede the more formidable proceeding.

CASE I.—Catherine G., aged 14, was admitted into Charing Cross Hospital under my care, December 5th, 1876, with the right knee fixed at about 80 degs. The photograph from which this illustration was taken foreshortens the thigh a little and causes the angle to appear wider than it was in nature. It appears that, in the year 1870, she was in the Shrewsbury Infirmary under the care of Mr. Samuel Wood, who kindly replied to my inquiries that, owing to the rebuilding of that institution, he was unable to get at the records; but that he remembered the girl as having strumous disease of the joint, which was bent at an angle; he excised the knee with the patella, and the case was doing well. But her parents, finding that they obtained more pity and money when the child was with them, took her out, and, of course, allowed the leg to remain in any position, the result being as depicted (fig. 1).

I found between the tibia and fibula so slight mobility, that it could not have been distinctly verified if the flexors had not twitched on any attempt to straighten the leg. The limb had lost in length probably

Fig. 1.

as much from disease as from the excision. The measurements were as follows: Left limb—femur, 16 inches; tibia, 14½ inches; right limb—femur, 11¾ inches; tibia, 13¾ inches. I had chloroform administered, in order to detect if it might be possible to straighten the knee, but found there was no more motion without that than with the anæsthetic, and that the ankylosis was, to all practical purposes, immovable. December 21st. I chose a place about two inches above the lower end of the femur, and on the outer and anterior face of the limb made a transverse incision a little more than half an inch long, quite down to the bone through the periosteum. Keeping the knife upon the bone, I used it as a director, and glided along it: the blade of a chisel one-third of an inch broad, thus securing that the instrument should pass into the same periosteal wound. The bone was now, by repeated blows of the mallet, divided, except a thin layer at the back and inner side, where the presence of the artery rendered further intrusion of a chisel dangerous; this small portion was easily broken by a sharp jerk upward of the leg. On trying to straighten the limb, the semitendinosus impeded. I divided its tendon, and put the parts in such position by bringing the foot forward, as gave it the straightest appearance attainable. Even at the expense of a considerable bend of the femur, the leg would not come straight; that is to say, it could not be so placed that the tibia ran in a direction parallel with that of the upper femoral fragment. I considered the advisability of dividing, also, the tibia and fibula; but, as the desired straightness was nearly gained, and as the dimensions (given above) showed that the limb must necessarily be a short one, I thought an additional half inch would be dearly purchased by increasing the gravity of the operation. The wound was, therefore, dressed antiseptically; the limb put into a plaster of Paris bandage, and held in the required position until consolidation took place.

For two hours the girl (in a very excited condition from the ether) made a great noise, sometimes shrieking as in pain, sometimes singing; after that interval she went to sleep, and has not had a moment's pain since. The drainage-tube was kept in the wound for ten days; in thirteen days healing had taken place. On January 30th, she was discharged, but, finding the photographer had failed to get a picture, I kept her another week.

Fig. 2.

The patient, as seen now, presents a remarkable condition; it is impossible by eye to detect any of that angular bend of the femur which was so evident immediately after the operation (fig. 2). Manual examination reveals only a slight incurvation. The figure gives an accurate representation of the limb—it looks like that of a knee very slightly bent. The child is under my supervision at the Cripples' Home; she is just now at the seaside retreat, and I have not seen her very lately, but I know (April 4th) that she is able to get about wonderfully well considering the shortness of the limb.

CASE II. John B., aged 11, came under my care into Charing Cross Hospital with a knee falsely ankylosed at a right angle. In consequence of old disease, there were many cicatrices about the joint. The condyles of the femur had become elongated into that form which renders forcible extension impossible without producing at the same time posterior dislocation; nevertheless, I thought it only right to try if some reposition of parts might, under chloroform, be effected (fig. 3). Although both hamstring muscles were divided, it was found impossible to alter the angle at the knee. As soon as straightening began, the tibia commenced to glide backward towards posterior dislocation. After about a week, the puncture for division of the outer hamstring suppurated. The mother of this lad, residing in Ireland, positively

Fig. 3.

forbad, through the lady who asked me to take him in, any operation for the removal of parts, though, as long as nothing was taken away, she did not object to any measures for straightening the limb. I was thus limited to a proceeding I might not otherwise have chosen; nevertheless, the soft parts about the knee, and the lower end of the femur, though not diseased, were hardly sound enough to embolden me to cut through them; I, therefore, determined to divide, firstly, that bone a little higher, and, after an interval, to cut through the bones below the knee.

January 25th. I cut through the femur about four inches above the joint, and put the limb into plaster of Paris, with such bend of the femur as seemed to promise, after the second operation, most straightness of limb with least subsequent projection of the knee. The result is here seen (fig. 4). The bone had become firmly united, and the splintage was removed on March 1st; but, owing to certain circumstances unconnected with the case, I could not perform the second operation immediately.

March 15th. I divided the tibia and fibula, the former from a wound on its outer side just below the tubercle; the latter also from a wound on the outer side below the transit of the external peroneal nerve.

Fig. 4.

The limb was straightened. Owing to the plaster of Paris supplied being of a poor quality it did not fix quickly, and some subsequent flexion took place. However, the bones reunited well; on April 12th, the plaster was removed, and the photograph, from which this figure is engraved, was taken (fig. 5).

Fig. 5.

I will only remark that, even in the few days that have elapsed since then, the angles at the femur and tibia are very much decreasing, as also is the projection at the knee. Nature seems undertaking, as in the case of Catherine G., a modelling process which, in time, will almost abolish the angular appearance. As it is, the left limb is only about an inch and a half shorter than the other, and when he has a high shoe the boy will walk very well.

In my next, a few more words will be said about this operation, previously to passing to another subject.

LEEDS.—Dr. Goldie's report for the four weeks ending December 30th was satisfactory, as it showed an unusually low death-rate of 25.0 per 1,000 living, and a smaller proportion than usual of deaths under five years. There were no deaths from small-pox or diphtheria, but there had been as many as twenty-one from fevers. He reports a few cases of typhus, but says that the disease had not assumed an epidemic character, and that, therefore, there is no need of alarm, as sporadic cases will occasionally occur in large towns like Leeds; that a strict supervision will be kept over the cases and the houses in which they occurred, so as to prevent any further spread of the disease, as he believes that, although typhus fever "ranks higher in the infective scale, yet, if early notice is given of cases, it can be readily stamped out like small-pox. The statistics of fever printed in the last report of the Registrar-General show that there has been a greater continuous decrease in the number of deaths from 'fever' than in any other disease of the zymotic class, as in the decennium 1851-60 the death-rate in England per 10,000 population from the seven chief zymotic diseases was 38.6, whilst in 1861-70 it was 4.16, and in 1871-4, 35.6; whilst from fever in 1851-60 it was 9.26; in 1861-70, rather less, viz., 9.05; and in 1871-4 it was 6.19. In none of these last four years was it as high as 7.0, whilst in only one of the previous twenty years was it below this number." Time only can show if the diminution depends on the more energetic carrying out of sanitary measures throughout England or on temporary circumstances; but we shall certainly be disappointed if Dr. Goldie's opinion be not verified to a greater or less extent—viz., that typhus fever can readily be stamped out, provided that early notice be given to the medical officer of health, and that isolation and disinfection be promptly carried out. Dr. Goldie also refers to a conviction which he had obtained for the selling of milk that was contaminated with epithelial cells and pus-corpuscles.