SAVING CONDEMNED LIMBS.

By SAMPSON GAMGEE, F.R.S.E.,

PRESIDENT OF THE BIRMINGHAM MEDICAL INSTITUTE.

A SURGEON'S responsibilities are probably never more delicate and weighty than when he is called upon to review a decision to amputate a limb. To the cases elsewhere published,¹ in which, from inability to coincide with proposed amputations, I have successfully adopted measures to save limbs, brief notes of a more recent case may be added preliminary to comment.

In compliance with an urgent call into the country I visited a patient whose leg was to be amputated next day. I gathered from the medical attendant that a fracture through the right ankle had occurred about a fortnight previously; great swelling having supervened, a considerable number of leeches were applied, and then padded wooden splints. When these were removed, after four or five days' intense suffering, a large wound was exposed on the inner aspect of the limb, which was much swollen. Splints were then discontinued, carbolic acid lotion applied, and amputation advised after consultation with a hospital surgeon.

I found the limb from foot to knee greatly swollen and tense, of deep red colour, and exquisitely sensitive to the slightest touch. The skin, to the extent of several square inches over the tendo Achillis and on the outer part of the leg, threatened disorganisation; and on the inner side of the ankle was an irregularly shaped deeply excavated wound, measuring from side to side five inches and five-eighths, from above downwards three inches and seven-eighths, and seemingly penetrating in its depressed centre into the ankle-joint. The patient's constitutional state was sound, but pain and want of sleep had produced considerable exhaustion. Unable to concur in the proposed amputation, I advised twenty-four hours' delay to test the effect of the treatment which I proceeded to carry out. Carefully supporting the limb, I raised the foot and placed on the outer side, from the lower third of the thigh downwards, a double millboard splint, gummed, and padded three inches thick with dry absorbent gauze and cotton tissue. The splint embraced the sole of the foot which, as well as the whole inner side of the limb, was padded with equally thick and perfectly smooth folds of the tissue. The whole was now smoothly bandaged with long spirals and without reverses, and with equable but decided pressure. Four six yard bandages were used. The limb was then placed on the outer side in a swing, and I visited the patient with the medical attendant the next day. Pain had been much less, and the loosened bandages denoted great subsidence in the swelling. Taking the limb out of the swing, the bandages on the inner aspect were cut, and the absorbent tissue, soaked with a great quantity of matter, removed; but the millboard splint on the *outer* side was not touched for some days. The skin was paler and much less sensitive and tense. The same dressing was repeated on the following three days. The improvement locally and constitutionally was then so marked that the question of amputation was not reopened; and henceforward the dressing was only renewed every other day. A considerable slough separated from over the tendo Achillis and the outer part of the leg, and the absorbent tissue before application was lightly sprinkled with some of the following lotion: Four grains of sulphate of zinc, half an ounce of methylated spirits of wine, one ounce of glycerine, and one ounce of water. The wound surface was occasionally touched with solid sulphate of copper. The dense deposit in the leg above the wound softened and gave evidence of subcutaneous pus, which was carried off by drainage-tubes, one of which was passed several inches up the inner side of the leg, by corkscrew movement, from beneath the upper edge of the wound. Another tube was introduced through a small incision just outside the middle of the tibia. The outer ends of the drainage-tubes were made to project out of the dressings into a tin tray containing dry earth, which could be changed whenever necessary. The more perfectly to immobilise the foot and ankle, a bracket millboard splint was secured on the outer side, so as to embrace the leg just below the calf, and

also the outer edge of the foot. Later on, gummed millboard splints were placed on the inner and posterior aspects; and it may give some idea of the amount of padding to state that at each dressing half a pound of the absorbent gauze and cotton tissue was used. For the first six weeks the dressing was renewed every other day, after that on Mondays and Thursdays. The patient left her bed for the couch at the end of two months; in another fortnight she removed downstairs, and then the wound on the inner side of the ankle was solidly healed, with fair and steadily improving movement in the joint.

The recovery of the limb was due to a variety of agencies, chief amongst which were immobility, position, pressure, infrequent and dry dressings, with drainage by absorbent tissue glycerine and tubes. It was remarkable how the very tender limb, which at first could scarcely bear the lightest touch, became comfortable under equable elastic pressure, physiological position, and absolute rest. I have elsewhere² recorded a case in which a patient with a tender swollen leg, similarly treated, spontaneously expressed himself in these words: "It is wonderful how I can bear the limb handled now, and I could not stand a feather touching it last night." Glycerine in such cases acts as an antiputrescent, and by its great affinity for water powerfully aids absorbent tissues in securing perfect surface drainage, and keeping parts clean and sweet without the use of water. The plan of wound treatment, based on physiological principles, which I have enjoyed the frequent privilege of illustrating in these columns, was strikingly exemplified in the case above related. The limb was in such a condition that it was impossible to foretell its recovery with certainty, and it was only by the utmost care at every dressing that the result was attained. But I was from the first hopeful. In a large proportion of cases in hospital and private practice in which I have been called upon to amputate, I have not touched the knife and have spared the limb. A clear conception of physical and physiological principles, unprejudiced application and combination of therapeutic resources according to the circumstances of particular cases, gentle yet firm, painstaking yet not meddlesome, manipulation, are very powerful agencies in saving condemned limbs.

Birmingham.

ON A

CAUSE OF UTERINE DISPLACEMENT, NOT HITHERTO MENTIONED, CONTRA-INDICATING THE USE OF PESSARIES.

By J. BRAXTON HICKS, M.D. LOND, F.R.S., F.R.C.P.,
CONSULTING OBSTETRIC PHYSICIAN TO GUY'S HOSPITAL, ETC.

I WRITE subject to correction, but I believe the cause about to be mentioned of uterine displacement and flexion has not been remarked upon, and yet it is not so very rare. Briefly stated, the concavity of the abdominal walls, noticeable in many spare women, will not permit the uterus to take its proper position in the pelvis, but, acting chiefly through the agency of the bladder more or less upon its fundus, pushes this portion back towards the promontory of the sacrum in a much more marked manner than occurs in a normal state, ending in flexion if the uterus be soft and its attachments to the front of the pelvis fairly firm. Again, if the uterus be tied by adhesions, or be already anteverted more than usual, then this condition is still more increased, and the bladder, unable wholly to rise above the uterus, expands by one arm of its Y-shaped cavity in its empty state above it, thus pressing the fundus down, and the other arm distending beneath the uterus tends to increase the anteversion, pushing up the lower end, thus increasing in two ways the anteversion. So that if the catheter be passed the fundus will be found projecting into the back of the bladder and closely opposite to the sphincter, preventing it easily entering, while it readily passes above and below to the full extent, and thus the functions of the bladder are materially interfered with. As most of these cases occur in single women, the uterus is generally held to the pubic segment of the pelvic floor

¹ Case 49, p. 132, Case 51, p. 137, Case 63, p. 171, Case 84, p. 228, in *Treatment of Wounds and Fractures*, by the author, second edition. Churchills.

² *Wounds and Fractures*, p. 187.

fairly firmly; but in those who have been delivered the laxity of these front attachments permits the bladder to push the uterus backwards and downwards, so as to bring the back of the uterus in close contact with the anterior wall of the rectum.

In books of anatomy and obstetrics it is stated that the fundus of the uterus reaches to the level of the upper edge of the pubes. This may be taken as generally correct, though from clinical observation I should be inclined to say that it not infrequently rises a little above the plane of the conjugate. The abdominal walls, springing from the edge of the pubes, curve rather forward, and thus do not interfere with the distension of the bladder, at least not to any great extent; nor in the empty state of the bladder with the position of the uterus of normal anteversion; though when the bladder is full it retroposes the uterus towards the sacral promontory. In the condition, however, of the abdominal walls above alluded to, and described in my paper on Abdominal Tension¹—namely, of extreme retraction,—the walls become concave and are in close contact with the brim nearly throughout, in some cases resting nearly closely on the anterior surface of the iliacus and psoas, pressing to a not unimportant extent the viscera, &c. And thus it will readily be understood how that, as the bladder is being distended, unable to rise upwards, it pushes the uterus back to a degree to be measured by the difference of distance between the present incurved line of the inner surface of the walls and their former normal state. The uterus thus in course of time assumes a position with its axis approaching that of the conjugate of the middle of the pelvic cavity, the os in the retroposed position being somewhat apparently elevated, but pointing forwards, except when, to a certain extent, it becomes flexed. There is not much space between the rectum and the back of the uterus, and when faeces accumulate, as they are apt to do in this starved state of the system, they are more or less closely in contact. As I have pointed out, the pressure the walls exert is considerable—some of it due, as it appears to me, to a kind of permanent contraction of the muscles. This retraction of the walls could not take place without the absence of gas in the intestines; possibly the more solid contact of the inner face of the walls against the firm structures behind sets up a kind of chronic spasmodic state.

I am inclined to think that the uterine dartoid-like attachments are in a state of irritability also. That they are at times capable of this action I have no doubt, and this serves to explain the varying opinions of those who have seen the same case at different times, and it has its parallel in the action of the homologous dartoid tissue which causes retraction of the testicle. That all this can occur without some sort of uneasiness would be wonderful, and this it is which leads the patient to seek medical aid. Generally the patient is of a neurotic temperament, ill nourished, badly feeding, and much complaining; nor is this perhaps to be wondered at, seeing that owing to this incurved state and pressure the abdominal viscera are displaced and interfered with in their movements and functions, thus producing uneasiness, often visible on the face. Accordingly the medical attendant necessarily finds it a difficult task to determine whether the ailment had originated in the uterus, as a cause of reflex bad appetite and nausea, or not. If the pelvic region is much complained of, or if the medical man is over-intent on uterine maladies, he would very possibly be led to examine the uterus, and, finding the organ out of place, might be led to think this the prime cause, and to attempt to correct the displacements by mechanical means. Again, if the digestive organs were most complained of, the cause of the pelvic distress might be overlooked, or attributed to ovarian irritation, or to the constipation, to neuroses, or to fancy. Supposing, then, that in the course of treatment attempts are made by the medical man to correct the position of the uterus by pessaries, the same forces which pushed the uterus into that position he will find now to resist his efforts, and although he may be able to restore the organ in part and get the pessary into place, he will find it will not—as it cannot, indeed—properly act, and that the patient, instead of being relieved, is more uncomfortable.

The same remarks apply to both conditions whether retroversion or anteversion: so long as the abdominal walls remain in the same incurved state above described, it is difficult in most cases to elevate permanently the fundus; indeed, all attempts generally increase the distress, and the

uterus shortly regains its former position.² In this retracted condition of the walls, the ovaries also along with the uterus suffer from the pressure and restraint of free movement, without which none of the viscera can work painlessly and perfectly; but when pessaries are employed, these are almost certain to be brought in contact with the ovaries, and consequently much distress is felt; and this is naturally most severe when rigid pessaries are used, such as are made of vulcanite, coralline, or metal—the kinds most likely to be used in these difficult cases. In some of these cases, it is probable that the uterus was already retroposed or anteposed—i.e., before the retracted state of the walls occurred; but the clinical aspect of the case is the same whatever the order of arrival. From a survey of this state of things I think it will be conceded that the uterus has assumed the position of neutrality to the forces existing about it, and that the treatment should rather be directed to remove these abnormal forces than to drive the uterus in antagonism to them, and thus place it, as it were, between the upper and nether millstone.

SEPARATION OF THE EPIPHYSIS OF THE CAPUT FEMORIS.

BY NOBLE SMITH, F.R.C.S. EDIN.,
SURGEON TO THE ALL SAINTS CHILDREN'S HOSPITAL.

THIS accident is doubtless extremely rare; in fact, the symptoms that were present in the few supposed cases that have been recorded were not sufficiently characteristic to be accepted as absolute proof of the nature of the cases. The subject is referred to in the third edition of Holmes's *System of Surgery* thus:—"Several supposed examples of this accident," writes Mr. Henry Morris, "have been recorded, but I agree with Mr. Holmes in thinking that they are not conclusive as to the real existence of this lesion." Mr. Morris refers to two cases.³ Hamilton describes these and two other supposed cases, but does not consider any of them as proved.⁴ The following, I believe, will be considered a clear instance of this lesion.

A delicate young lady, aged seventeen, nearly fell while walking on wet board boards, the right leg slipping outwards and forwards. She recovered herself, but felt severe pain, chiefly in the knee, but also in the region of the hip-joint. There was intense pain at the back of the knee-joint, which afterwards became more general. The pain in the hip soon decreased. A provincial surgeon of considerable experience, who saw the case, could detect no shortening of the limb, but the toes inclined outwards at about 30° from the vertical. The pain was referred to a spot just below Poupert's ligament. With perfect rest in bed the pain continued to lessen, and the patient was able to make some voluntary movements of the limb. The surgeon diagnosed "severe strain" of the femoral muscles from violent external rotation of the limb, with probably some rupture of the capsular ligament. About five weeks before this accident, the patient strained the right knee in walking quickly. With rest, this strain had apparently been recovered from, but it had probably left the muscles weak, and had thus contributed to the second and more severe accident.

When I saw the case on October 9th, 1885, eleven weeks had elapsed since the second accident. She had remained at rest in bed for three weeks, when, as the pain had ceased, she endeavoured to get up, but it was found that the right leg was quite useless. I found the leg measured in its length an inch and a quarter shorter than the other. Measured from the top of the trochanter to Bryant's line (a plan more convenient than Nélaton's for such a purpose), the same difference existed between the two sides. The right trochanter was slightly prominent laterally to an extent not greater than a quarter of an inch. The foot was rotated outwards to the extent of 50°; whilst in the recumbent position she could flex the thigh to an angle of 45° with the straight line of the body, without moving the pelvis. The leg was utterly useless to her for standing,

² It may be wise in some cases of anteversion to try if any benefit may be derived from retroposing the uterus; but this should be done by a sound rather than by a pessary.

³ South's "Chelius," vol. i., p. 505; and Post, *New York Journal of Medicine*, vol. iii., p. 190.

⁴ *Fractures and Dislocations*, 4th edition.

¹ Medical Society's Proceedings, 1884.