REMARKS ON FRACTURES.

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[We extract the following judicious remarks from the 154th number of the "Edinburgh Journal."]

The treatment of fractures of the long cylindrical bones is so well understood at the present day, that it is unnecessary to dwell on the mode which has been adopted in the cases under notice. There are, however, certain observations resulting from the treatment of the more severe injuries which appear of importance, emanating, as they do, from a practice of no mean extent. The first great question which naturally presents itself in the treatment of severe fractures is, whether the injury is of such a character as to justify the surgeon in attempting to save the limb. Much rests on this important point. The life of the patient may be lost in attempting to save the limb, or the limb may be unjustifiably amputated. The first examination in such cases is all important. It should be made with great care and patience, and the surgeon should, if possible, fully satisfy himself of its exact nature, so that any future examination may be rendered unnecessary. Difficult as the question is, there are circumstances which, when taken into account, naturally lessen embarrassment. Thus, there are injuries characterised by peculiarities, which, from their known fatal results, point out the unreasonableness of attempting to save the limb, and render amputation, as it were, imperative. Again, there are injuries of a very severe character, wherein the surgeon is justified in attempting to save the limb. In the first class of cases here alluded to, are comprehended severe lacerations of the muscles and tendons, with simple or compound fracture, such as result from machinery, or anything causing much friction; for instance, the coiling of an over-stretched rope round the limb, or severe contusion accompanying the fracture, compound fracture extending into the knee-joint, fracture with laceration of the femoral artery, fracture with severe injury of the large nerves, comminuted compound fracture of the tarsal bones, particularly of the *os calcis* or astragalus. This may be said, also, with regard to the carpal bones when accompanied with laceration of the muscles and tendons, longitudinal fractures of the long cylindrical bones entering a joint, compound fracture of the tibia into the ankle-joint with laceration of the tibial artery; fracture with internal hemorrhage.

The second class comprehends cases of severe compound, or compound comminuted fractures; compound fracture extending to the ankle-joint; compound fracture, with considerable laceration of the soft parts; fracture, with considerable contusion. It is impossible to enumerate the several cases in which it will be proper to attempt to save the limb, as many circumstances will have to be taken into account.

Those cases which have been mentioned are such as have presented themselves at the Liverpool Northern Hospital. The recorded experience of a long period clearly proves that the injury of bone, abstractedly considered, is not dangerous; and, whatever bad consequences follow, will principally depend either upon the degree of mischief done to the soft parts, or upon

the inflammation of such parts, excited by the same violence that broke the bone, or upon the irritation of them by the spiculae and sharp projections of the fracture. In short, the danger appears to be in the ratio of the injury done to the soft parts, and this is produced by the manner in which they are affected by the fracture, or the power which has effected the injury.

In determining the momentous question, whether the attempt to save the limb be made or not, several points will have to be taken into consideration, independent of the allusions already made. The age of the individual forms a feature in the case. It has been found that patients whose ages did not exceed thirty have had constitutions capable of bearing the severe shocks arising from these injuries much better than those more advanced in life. Two remarkable instances occurred in boys of ten and fifteen years of age. In one, where there was compound fracture of the tibia and fibula, with extensive laceration into the ankle-joint, the internal and external malleolus came away; the patient recovered with a good leg and foot. The other case was one of compound fracture of the tibia and fibula, with severe laceration and contusion of the muscles and integuments, the foot being literally held by the torn muscles; the integuments having been lacerated over the whole circumference of the leg. This accident was occasioned by a heavy canal boat pressing the leg against the stones forming the side of the canal, while the boat was drawn along by horses, the leg being rolled in its passage. This boy recovered without a single bad symptom. On the other hand, apparently slight injuries occurring in persons of a more advanced age often terminated badly. As an illustration may be mentioned the case of John Joseph, aged sixty-three, who cut his foot with an axe. The cuboid bone was fractured. Traumatic gangrene was the result of the inflammation which followed the accident, and so destructive was its character that amputation was had recourse to to save life. It is unnecessary to instance many cases in exemplification of the fact, that persons above the age of thirty will not bear the same degree of injury as well as those below it, and the higher they advance in years the less power has the constitution to bear the shock occasioned by severe injuries.

The previous habits must exclusively guide the surgeon in his determination. Too much attention cannot be paid to this inquiry. The man who has led a dissipated life can ill support a moderate shock to the constitution; and where it can be ascertained that the previous habits have been bad, the surgeon will not do well to trust too much to nature's reparative powers.

The state of the constitution at the time of the accident should be also ascertained, as this may, likewise, very materially influence the surgeon in his determination.

Whether the superior or the inferior extremity be injured will make considerable difference, as it is well proved that very severe injuries of the upper extremities will do well, when it would be unsafe to attempt to save an inferior extremity, where the same amount of injury had been inflicted.

It seldom happens, where the accident is of so

severe a nature as to demand amputation, that the patient is in a state to bear the immediate performance of it; the depressed state of the vital powers is such as frequently to endanger life. In some instances the patient never rallies, and here a very important question raises itself—namely, as to the most fitting time for the operation. This difficulty continually presents itself in severe injuries to the extremities requiring amputation—whether it be well to operate during the collapse of the patient, or to wait for increased power given to the constitution by reaction, is a point for consideration. In several very urgent cases where there have been but slight indications of reaction or an increase of vital power, amputation has been successful. In these instances, although the operation appeared to give an additional shock to the system, yet reaction almost invariably returned in a short time. In three cases amputation was performed during extreme collapse—cases in which a fatal hæmorrhage was existing, and where the patients, instead of showing any signs of rallying, were gradually becoming more depressed. Two died, one recovered; and one of the patients who died required amputation of both legs. Other cases died from the effects of the shock on the system, where it was considered unjustifiable to amputate.

Many hold the opinion that the knife is a good stimulus in these cases, and that the operation is rather beneficial than otherwise. So far is this from being the case in the instances which have occurred here, that the conclusion arrived at is—that in cases of extreme collapse amputation should not be performed, unless there be hæmorrhage, which, if not arrested, would of itself destroy the patient. Where the sufferer complains of great pain, the chances are more favorable than where there appears an absence of sensibility. There is, perhaps, no worse symptom than a great want of feeling evinced in cases of collapse; it indicates extreme depression of the vital powers, from which the patient rarely recovers.

In severe injuries of the extremities, accompanied by hæmorrhage, and where collapse exists, it were better to amputate immediately than to allow the patient to sink from the loss of blood. There will be a possibility of reaction taking place, and by the operation is given the only remaining chance. In such an instance the operation will be proper. In severe cases, however, where the immediate danger arises from the depression of the vital powers, and where the operation can be delayed, although at considerable risk, amputation ought not to be performed; good cannot result from it. By having recourse to it, the only chance left may be destroyed, as undoubtedly such a step would only increase the depression of the vital powers. It will be more prudent even to risk inflammation and its consequences, than to attempt to amputate where the symptoms of collapse are urgent, unless alarming hæmorrhage is present, and then it may be justifiable, as the only chance left for the patient. It may be contended that hæmorrhage can be restrained; let it be recollected, however, that the symptoms of collapse may, and do frequently, exist many hours. Compression sufficiently decided cannot be kept up for the time required without great additional danger.

Another important point for consideration is the

time at which secondary amputation should be performed. The surgeon not unfrequently experiences the mortification of seeing his best endeavours fail, and the limb, which at the time of accident presented no other than symptoms most favorable to its preservation, rapidly assuming an unfavorable aspect; or the limb, which, in consequence of the urgent symptoms of collapse, could not be amputated in the first instance, speedily inflaming, and if the patient lives long enough, running on to suppuration or traumatic gangrene. The experience derived from the foregoing cases leads to the conclusion, that where the inflammation runs on to suppuration, amputation can be safely performed. The incisions may be made even through the abscess; yet, where this can be avoided, it is highly proper to do so.

When inflammation terminates in traumatic gangrene, amputation may be performed with safety. Cases have occurred where the operation was successfully performed, though the gangrene was extending rapidly, and the patient reduced to the last extremity. So extraordinary have been the recoveries under such circumstances, that the surgeon should never look at the case as hopeless, or neglect to give the patient this chance of life. The same may be said of cases which run on to suppuration, accompanied by urgent symptoms of hectic. Though reduced to the extremest possible danger, yet, on the timely removal of the source of the evil, the patient lives.

It not unfrequently happens, where the patient lives beyond the first stages and dangers of inflammation, that we have to encounter a series of profuse abscesses, of great extent, with hectic disturbance of the most alarming kind, and which can only be arrested by removing the exciting cause. If an attempt has been made to save the limb, and it be frustrated by the formation of extensive abscesses (or by diseased bone, causing frequent returns of inflammation), or by extreme prostration of strength with the urgent symptoms constituting hectic fever, amputation will probably become necessary. The time for such an operation will depend on the reparative powers still remaining. If the strength be too impaired to admit of the delay necessary for exfoliation, amputation must be performed. It seldom appears that the patient is too weak for the operation; nevertheless, where it becomes necessary, it should be done without delay. It is astonishing how much depression and weakness the patient will recover from, when the exciting cause has been removed. This is observed in cases where diseased bone has been thrown off, which, from its irritating presence, had kept up a profuse discharge and urgent symptoms.

It may be mentioned that in some cases of extensive discharge of purulent matter, accompanied by hectic disturbance of the system, much good has been derived from substituting cold spirit wash for warm applications. The diminution in the quantity of discharge has been extraordinary, and not unfrequently has the urgency of the symptoms disappeared after its use. By the beneficial results arising from it, several limbs were saved, which, it was feared, must have been sacrificed to preserve life. The cases alluded to are those in which it becomes a question

as to the power the patient has to contend against the depressing effects of suppuration and irritation; the surgeon feeling satisfied that, if there be sufficient stamina to withstand the effects of the discharge, the patient will recover. Where, however, the injury is of such a character as to preclude the possibility of saving the limb, and amputation becomes a mere question of time, the first favorable opportunity must be embraced for the operation.

CONVULSIONS

DURING

DELIRIUM EBRIOSUM.

TO THE EDITORS OF THE PROVINCIAL MEDICAL JOURNAL.

GENTLEMEN,—In Dr. Lynch's paper on Delirium Ebriosum, accompanied with Epileptiform Convulsions, published in the last number of your Journal, he states it as a curious circumstance that the only cases we can discover "of recovery after epileptiform convulsions are these alluded to in this article," &c. As recovery is confessedly rare, perhaps another instance or two may not be unacceptable; I therefore forward the following cases, which prove that recovery may, and generally I think does, take place when the attack is ushered in by convulsions, accompanied with a strong and full pulse, indicating the propriety of using depletion; and so far from considering them a fatal indication at the commencement, I should be more inclined to the belief that convulsions are not to be viewed as invariably dangerous; it is, however, far otherwise when they come on later or towards the termination of the disease.

On the 5th of April, 1839, I was summoned immediately to see Mrs. B., the wife of a publican, of well-known intemperate habits, whom I found sitting up, or, at least, supported on the sofa, laboring under the most frightful paroxysms of convulsions I ever witnessed; the features were most horribly distorted and dreadfully livid, presenting a most unnatural appearance; upon inquiry from her husband I found, to use his own words, "she had been at her old tricks again;" in fact she had been, for several days, indulging freely in the use of her favorite beverages—porter and brandy. As she was a stout and gross personage I did not hesitate to abstract about sixteen ounces of blood from the arm, which had the effect of quieting the paroxysm. When she rallied a little her eye fell upon her husband, and, suddenly grasping my arm, cried out, "Oh, doctor, there!—there he is, the old devil! Oh, for God's sake! keep him from me—keep him from me—he'll tear me to pieces!" &c., and other such wild and extravagant expressions; this was immediately followed by another attack more severe than the first, so much so as to require several persons to hold and prevent her from inflicting serious injury upon her own person; her tongue, however, was severely bitten, and the bandage torn off the arm, &c. After this she was conveyed to bed, had a mustard plaster to the nape of the neck, and a bolus containing eight grains of calomel, five of camphor, and two of opium, made up with a sufficient quantity of the extract of hyoscyamus; an evaporating lotion was directed to be applied to the head, and hot bottles to the feet, &c. A turpentine

enema with assafœtida and castor oil was immediately thrown up, which had the effect of producing a most copious and flatulent evacuation. The patient had no return of the convulsions, but decided delirium ebriosum set in, which required the repeated use of the calomel, camphor, and opium, in diminished and frequently repeated doses, washed down with an effervescing saline mixture, containing hydrocyanic acid and morphia, the stomach being in a very irritable state. The daily history of the symptoms would only prove tedious; suffice it to say, that on the 8th (the third from the commencement of the attack) I found her up and attending to the duties of her bar, as unconcerned as if nothing had happened. I remonstrated with her on her conduct, stating the danger she had escaped, &c.; she only replied that her "poor mother suffered dreadfully from the same complaint at the time she was born, and that she must always expect to have those nasty convulsions!" I have reason, however, to believe there was no truth in this statement, as she merely made this as an excuse for her intemperance, which few ladies are willing to admit themselves guilty of. I am not aware that she has since had any return of the disease, as her husband has long since given up business, and she has returned to service in a gentleman's family, where, of course, the temptations are not quite so great, besides being obliged to be more guarded in her habits; she never had any children, and had before served most of her life in a nobleman's establishment as house-keeper.

I am, also, occasionally in the habit of attending a respectable tradesman, who indulges very freely in the use of spirituous liquors, and who frequently is attacked with delirium tremens or ebriosum; in his case the attacks are invariably ushered in with convulsions, but not of so violent a nature as in the first case, being more of an universal tremor or shaking of the whole body which continues for several minutes accompanied by complete insensibility, twitching of the mouth, and rolling of the eyes, &c., followed by delirium tremens; this state generally yields to the application of several leeches to the head, a mustard cataplasm to the nape of the neck and pit of the stomach, followed up by full doses of calomel and opium. In the first attacks I used generally to bleed him, but I now trust to leeches, cupping, and cold applications to the head, &c.

I am, Gentlemen,

Your obedient Servant,

WILLIAM GRIFFITH,

Surgeon to the Oswestry Dispensary.

Feb. 14, 1843.

MORTALITY IN FOUNDLING HOSPITALS.

The mortality in the Foundling Hospital at Vienna was at one period 60 per cent.; in the year 1812, as high as 69 per cent. Since then, however, the mortality has gradually fallen; in 1823, only 20 per cent. died; in 1826, only 14 per cent.; in the year 1829, 23 per cent. During the last ten years the mortality never exceeded 20 per cent.—*Ost. Wochen.*, No. 52, 1842.