

happy to conclude this letter, already a great deal too long, by stating, generally, that I heartily concur with the author of the essay in all the observations contained in his concluding paragraphs and appendix.

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## XII.

*On a particular Fracture of the Inner Condyle of the Humerus.*

By BENJAMIN GRANGER, Surgeon, Burton-upon-Trent.

**S**URGICAL writers, in treating of fractures of the humerus, have made no mention of a distinct species of fracture affecting its inner condyle, which, like the fracture of that important portion of the ulna, the olecranon, is of a nature to merit a particular consideration. A distinguishing circumstance attending this fracture is, that of its being occasioned by sudden and violent muscular exertion; and it will be recollected that, from the inner condyle, those powerful muscles which constitute the bulk of the fleshy substance of the ulnar aspect of the fore-arm, have their principal origin. The way in which the muscles of the inner condyle are involuntarily thrown into such sudden and excessive action, I take to be this,—the endeavour to prevent a fall by stretching out the arm, and thus receiving the percussion from the weight of the body on the hand. One example, indeed, of this accident, I found complicated with a luxation of the humeral extremity of the radius, and another with a luxation of the elbow-joint; and, as these luxations are known to depend on falls on the hand, a fracture of the inner condyle of the humerus, from the inordinate action of its muscles, could not well be simultaneously produced, unless it originated in the same manner. Whether the whole condyle be broken off, or only a portion of it, the detached piece of bone is retracted from the humerus, just below the bend of the elbow-joint, with some variety of lateral situation in different instances, being in contact with the olecranon, or an inch or more distant from it. From the way in which the fracture is occasioned, an unusual degree of inflammation speedily attacks the elbow-joint and fore-arm, reaching about as low down as the termination of the carneous fibres of the flexor muscles, and being accompanied with so much tumefaction as to prevent, almost entirely, the motion of the elbow-joint, although, in the first instance, the

displaced condyle admits of the utmost degree of flexion, and extension of the fore-arm with facility. In one or two instances, an extensive tract of ecchymosis spreads along the inner side of the fore-arm, indicative, of course, of the degree of violence with which the muscles of the inner condyle had exerted themselves. It will not be necessary to enter on any details relative to the mode of treatment of the inflammation. I shall only observe, on this head, that I have found the topical abstraction of blood, by means of leeches, materially to aid the beneficial effects of the other remedies which have been employed. When the inflammatory stage of the accident is got over, and when the tumefaction has also subsided, a stiffness of the elbow-joint remains, which is so complete, if the whole or the greater part of the condyle has been fractured, that the position of the fore arm can be little or none at all varied from that in which it had been confined in the sling. This stiffness of the elbow-joint is of so obstinate a nature, that, in the first case of this accident which came under my care, I was for some time apprehensive that an incurable ankylosis would be the consequence. The remedy for this stiffness of the joint consists in the exercise of it, as much as possible, both by active and passive motion,—that is, by the use of the appropriate muscles, and by bending and extending the fore-arm with the other hand, or by means of an assistant. The exercise of the joint in this manner must constitute the *principal occupation* of the patient for several weeks; and should it be remitted during the formation and consolidation of the callus, much of the benefit which may have been derived from this practice will be lost, and will, with difficulty, be regained, as the following case will exemplify: “On July the 13th, of this year, a boy, about eleven years old, had the inner condyle of the left humerus fractured, in consequence of being thrown down with violence while at play. This was the case which was complicated with the luxation of the elbow joint. The luxation was as readily reduced as under ordinary circumstances, and no obstruction of the flexion and extension of the fore-arm then existed. When the tumefaction, which was exceedingly great, had gone down, the fore-arm was found immoveably fixed at right angles with the humerus, the position in which it had been supported in a sling. By perseverance in the exercise of the joint, he could, at the end of three weeks from this time, produce so much additional flexion of the fore-arm, as to be able to put the first joint of his thumb, beyond his fore-teeth, without any approach of the head, and he had recovered the power of extending the fore-arm in a still greater proportion. As he lived in the country, and as I had given the boy very minute directions

how to proceed, I did not happen to see him again for a considerable time. He had then succeeded in getting his fore arm into a state of complete extension, but with this condition, it was as immoveably fixed in the extended state as it had previously been in that which it was found in after the swelling had dropped. This obviously arose from his having neglected the flexion of the fore-arm, in his efforts to obtain the full extension of it. Exercise of the flexion of the joint has since been so far of use to him, that he has re-acquired the power of bending it nearly to the extent before mentioned; and he can manage to take his food with a fork in his hand, in the usual way, without any inconvenience." This is the only instance of this accident out of five which I have seen, that the full range of flexion and extension of the fore-arm has not ultimately been obtained, or with so trifling an exception as not to be observable without close attention.

I have purposely avoided saying one word about replacing the detached condyle, and for these reasons, during the state of tumefaction of the limb, no means could be adopted for confining the retracted condyle in its place, beyond that of the relaxation of its muscles; and both before the tumefaction has commenced, and after it has subsided, all endeavours to replace the condyle, or even to change the position of it, have failed.

In consequence of the retraction of the inner condyle below the elbow-joint, it must be obvious, that its muscles can no longer assist with the supinator longus, the brachialis internus, and biceps brachii, in the common flexion of the ulna and radius. The extent, however, to which the muscles of the inner condyle act as flexors of the fore-arm, is, according to the best authorities, very limited; therefore, little inconvenience can result from the misplacement of the condyle in this respect. Thus Dr Barclay, in his original work on the muscular motions of the human body, after having enumerated the muscles of the inner condyle, among the flexors of the fore-arm, observes, that they are so "*only* to a small extent, and *only* at a time when motion commences, and before the lever of resistance is shortened, and the levers of the biceps and supinator are lengthened." p. 396. Again, the mechanical advantage which the inner condyle, projecting from the humerus, is said to afford its muscles in their action, is an opinion which accords more with *theory* than with *fact*; consequently, the several movements of bending, grasping, and turning the hand, which these muscles produce, can be performed with much the same degree of force when the condyle is retracted below the elbow-joint, as when it was situated on the humerus. A statement of a case of this accident will

establish these positions, and will also afford me an opportunity of mentioning some symptoms peculiar to this species of fracture of the inner condyle, which have not before been noticed. On December 10th, 1808, W. D. a boy about eight years old, fell down with violence and fractured the inner condyle of the *right* humerus. The whole of the condyle was broken off and retracted below the elbow-joint. On questioning him, he said that he fell on his hand. The inflammation, tumefaction, and stiffness of the articulation, consequent to the accident, took place, to the extent before described to happen in these cases. He recovered the free and entire use of the elbow-joint, in somewhat less than three months after the accident, but the misplacement of the condyle and its muscles, destroyed the symmetry of this part of the arm, and gave it a deformed appearance. From the pressure which the retracted condyle produced on the ulnar nerve, the little finger, from the moment of the accident, lost all sensation, and the inner side of the ring finger, and integuments on the ulnar edge of the hand, became also devoid of feeling. The abductor minimi digiti, and two contiguous muscles of the little finger, from the same cause, were rendered paralyzed and useless. Successive crops of vesications, about the size of a split horse bean, commenced to form on the little finger and ulnar edge of the hand some weeks after the accident, leaving troublesome excoriations. This eruption of vesicles did not entirely cease for two or three months, and might in some degree be attributed to the cold weather of the winter. At a proper age this youth was put out as an apprentice to a house-painter; and the laborious and long continued exertion of the *right* arm, which the manipulation and handicraft of this trade requires, need not be pointed out. Now, so far from experiencing the disadvantage in the action of the muscles of the inner condyle, which on principle we should expect as an inevitable consequence of the circumstances of the case, he has been capable of working with his right arm in the business which he is brought up to, for the several years that he has been engaged in it, with as much ability as if he had not been subject to the accident. Even when lifting heavy burthens he does not find the right arm to fail him; he has, indeed, occasionally perceived a slight degree of uneasiness at that *particular spot* of the arm which the retracted condyle *adheres to*, when much pushed with hard work; but this is evidently an inconvenience of a different nature from that alleged diminution of the efficient action of the muscles of the retracted condyle which we are speaking of; and appears to be rather an affection of the surface of adhesion of the condyle, than of the muscles which spring from it. With-

in the last year and half he has recovered the use of the three paralyzed muscles on the ulnar edge of the hand; and the sensibility of the integuments covering them, and the other parts of the hand which had lost their feeling, has returned. If the little finger be pressed strongly, it feels numb for some time afterwards; therefore, the nervous energy cannot yet be said to have been fully restored to that division of the hand which had been deprived of it.

In two other cases of this accident I found the same paralysis of the small muscles of the little finger, the same loss of feeling of the integuments, and the same succession of crops of vesicles of the affected parts of the hand, as is described to have occurred in the preceding case. The formation of the vesicles proves, that the influence of the ulnar nerve does not extend beyond the condyle which subjects it to pressure; for, in an interesting account of a case of *tic douloureux* of the fore-arm, given by Mr Henry Earl, in the *Medico-Chirurgical Transactions*, it appears, that the mode of cure was the division of the ulnar nerve just above the elbow, and that, at four distant intervals of time, a "blister formed on the little finger," terminating in a slough, and agreeing in every particular with the eruption of vesicles which attends the accident under consideration. As the pressure on the ulnar nerve, from the retracted condyle, cannot be supposed to diminish, I can give no other reason for the restoration of the lost energy of it, than that, in course of time, the nerve accommodates itself to the pressure it has been subjected to, and thus the effect of the pressure ceases.

Dessault has described a variety of fractures of the inner condyle of the humerus; but, on examination, it will be found that they all agree in these particulars, namely, in the displacement of the fracture (if any does take place) being always horizontal, and in such displacement being remediable, in the usual way, by *splints* and *bandages*; whereas, in that species of fracture of the inner condyle, which I have been describing, a *retraction* of the detached piece of bone takes place; splints and bandages would be inadmissible in the inflammatory stage of the accident, and afterwards would not only be useless, but would interfere with one of the principal indications of cure—the almost incessant exercise of the elbow-joint. The fractures of the inner condyle which Dessault particularizes, are such as more or less communicate with the cavity of the joint, and hence the fracture can only be displaced horizontally in the three directions which he mentions; that is, forward, backward, or sidewise. It is such fractures of the inner condyle only, as Dessault points out, that Mr Charles Bell appears to

have in view in his "Principles of Operative Surgery," when the advice he gives for their treatment is to "secure the arm in that position which permits the fragments to *repose* in their proper places."

*Burton-upon-Trent,*  
*December 26, 1817.*

### XIII.

*Observations on the Cure of Syphilis without Mercury, and on a Peculiar Affection of the Alimentary Canal, sometimes mistaken for Syphilis.* Communicated in a Letter to Dr DUNCAN, jun.  
By JOHN HENNEN, Deputy Inspector of Hospitals.

**D**EAR SIR,—In the present state of the question of the treatment of syphilis without mercury, it would be quite superfluous in me to make many remarks. The results of several trials have already been laid before the public, as they have occurred in the military hospitals of this city, by Dr Thomson, and in those of London by Messrs Guthrie and Rose.

I have felt great pleasure in showing you such of the cases as were still under treatment; and I know that I fulfil the wishes of my respected chief, Sir James M'Grigor, the Director-General of the Medical Department of the Army, when I solicit the inspection and opinions of medical practitioners, who are so well able to form a judgment as yourself. And I beg to assure you, that the same spirit of candour, which has induced me to show you the evidence upon one side of the question, will point out to me, as a duty, to communicate to you every thing which may hereafter appear upon the other. But as some misconceptions may arise in the minds of those who hear of, without being able to see, the practice to which a fair trial is now giving, I think it necessary for me to trouble you with a few observations.

It has been supposed by some persons, that the cures effected *apparently* without mercury, have been actually performed by means of the different preparations of that mineral, and by caustic surreptitiously employed. But the slightest acquaintance with the discipline of military hospitals, as at present conducted, would point out the impossibility of such a practice.

It has been urged, that the primary sores which have disap-