upon chronic inflammatory irritation of any mucous membrane are benefited by this climate. Whereas general debility not so dependent, with an impoverished watery blood, dyspepsia, and atonic neuralgic affections are not.

The table I now show is copied by permission of the late Professor Daubeny from his own daily observations at Torquay in 1861, and his assistants at Oxford, to show the greater amount of ozone in the air at Torquay. Greater amount of ozone means greater purity of air.

The second table represents the warmth of three places, as noted in my diary of the date of January 3rd, 1867—an unusually cold day. Cobham, Surrey, — 5 deg., or 5 below zero, 37 deg. of frost; Bourne-mouth, 12 deg., or 20 deg. of frost; Torquay, 25 deg., or 7 deg. of frost.

CLINICAL LECTURE

ON

DISLOCATIONS OF MUSCLES AND THEIR TREATMENT.

BY GEORGE W. CALLENDER, F.R.S.,

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GENTLEMEN,—When M. Pouteau wrote “sur la luxation des muscles et sur leur reduction”, he thought it necessary to give his reasons* for using the term luxation with reference to the accident he sought to describe. It expresses, however, so well the nature of the hurt, that no apology can be needed for now employing it.

It seems to me strange that one is still justified in saying with our author that the injuries to which I am now referring are but little known, and that we cannot to any large extent avail ourselves respecting them of the experiences of others; and although these hurts count as but a small detail in surgery, yet they are followed by considerable inconvenience, by pain often of long continuance, and interfering with just the very amusements or occupations in the following of which the hurt has been sustained, and the deprivation of which is often ill borne by the sufferer. Their chief interest to the surgeon lies in their diagnosis; for, when once he is able to make up his mind as to the nature of the hurt, he can be clear as to the treatment he should employ, and he will by experience be cautious as to his prognosis.

Now we all know how tendons are guarded by sheaths and are sheltered in grooves; and we are taught respecting some of them, that they are liable to be displaced from their natural bearings.† Perhaps, of all tendons, those which have been most under notice are the biceps of the arm and the conjoined tendon, which, through the patella, comes occasionally to be dislocated from the front surface of the femur. There is Dr. Hamilton's case of supposed dislocation of the biceps tendon; and in our London museums there are specimens showing displacement of the tendon of this muscle. It is not long since a woman was under our notice in Sitwell Ward who suffered from a hurt of this nature. I am very sorry we could do but little for her; but we did not see her until long after the first occurrence of her trouble. This woman had great pain with her hurt. The shoulder seemed to droop forward; and she shrank from using the biceps, and, indeed, from moving the joint. The tendon lay on the inner side of its groove; and, by pressing against it so as to push it out, and by rotating the arm inwards, it would slip back into the groove, but only to slip out again, when the pain, which had been for the time relieved, was again felt. Of course, continued rest was tried, in the hope that the tendon would be resheathed in its groove; but it was not so, and the conclusion we came to was that the groove had become in part filled up, probably by fibrous tissue; or that the tendon could not lie and act in it without some binding down by a sheath; and, as such ensheathing did not follow the reduction, the leader worked out so soon as any strain was brought to bear upon it.

The leaders about the wrist are not unfrequently displaced; and, unless the injury be early diagnosed (as it may be by recognising the irregular position of a tendon, to which attention is drawn by tenderness or by pain in working it), it will be, it is true, easy to reduce the dislocation, but it will be next to impossible to prevent its recurrence. It is only during the few weeks following the occurrence of the accident that the repair of the surroundings of the tendon has a chance of being perfected, and will be so efficiently completed as to insure absolute recovery from the hurt.

In treating trouble of this kind, the dislocation of the tendon should be promptly reduced; and the parts affected should be kept at rest for about four weeks, to give time for the repair of the surroundings of the leader. A little management in the case, for instance, of the wrist, will enable a given tendon to be rested without of necessity imposing absolute fixity upon the wrist or upon the many other tendons in front of and behind it; for, whilst taking every proper precaution, it is undesirable to fix unhurt tendons for any length of time, since by so doing they are apt to be rendered stiff and unfit for active work for many weeks.

One of the most troublesome cases I have lately seen was that of a man thirty-seven years of age, who slipped, and by a twist dislocated the two peronei from behind the external malleolus. When I first saw him, he had been, in truth, quite unable to get about for nearly two years. Nothing more could have been done for him during this time, as the tendons had been replaced, and the parts had been rested to give every chance of repair. Yet the tendons slipped out on the slightest provocation. We fitted this patient with an apparatus which prevented strain and lateral movement of the ankle, and with this he could walk well; but it is most probable he will often suffer from recurrence of the dislocation, whenever some strain finds the tendons unguarded by mechanical support.

Very troublesome, too, is the interference with the action of muscles which results from the dislocation of tendons consequent upon injuries to bones and joints. Their true bearings may be destroyed, and they have then to acquire new ones: a very slow process. These specimens from our museum illustrate this point. Sometimes you will see the tendon has to wear for itself a groove through a projecting mass of bone; sometimes it is diverted to one side and is stretched, working at an awkward angle; and, worst of all, a tendon occasionally becomes wedged between two bones or two fragments of bone, and then its muscle is often prevented from acting. The most formidable of these injuries—and there are several examples of the hurt in our hospital museums—is when the femur is split through its condyles, and the patella drops into the cleft and is held there. It is very difficult to dislodge it. If it remain, it must result in loss of all movement in the joint. Formerly, it would scarcely have been thought right to interfere in such a case, and even now it must be considered a serious operation to convert a simple into a compound fracture for the purpose of freeing a patella thus fixed, one the propriety of performing which could only be considered in exceptionally favourable cases.

Before referring to dislocations proper, let me mention to you a class of cases in which the sheath of a muscle is torn, allowing the muscle to protrude. We not unfrequently meet with these hurts. The muscles of the front wall of the abdomen suffer in this way, and a considerable protrusion of muscle results, sometimes forming a tumour, which is liable to be taken, on a superficial examination, for protrusion of some of the abdominal contents. There is a boy now in Harley Ward who, whilst running, slipped, and made a violent effort to recover himself. The fascia on the front of the right thigh gave way, and the muscles which it should have restrained started forward. Now, although the parts were kept at rest by a long splint, the fascia never united, and the limb remains weak—weak, that is, in such movements as call for a strain upon the extensor muscles.

Such cases are by no means rare, nor, I believe, are dislocations proper of muscles. Those who suffer from these hurts will tell you they have “ricked” a part (the term sprain is usually used when joints are implicated), and the “rick” will have been referred to some muscle or group of muscles.

Now think how muscles are placed: packed in an orderly fashion; closely applied one to another; firmly held in place by ensheathing tissue, and yet so free as to allow their varied movements to be easily practised quite independently one of another; and often side by side are placed muscles which so act that, whilst one is in contraction, its neighbour is quiescent or is antagonistic. Suppose that one of the muscles for the flexion of the foot (I use here the illustration of Peuteau) contracts alone or with more violence than do its fellows, it is likely—is it not?—by the irregularity of this contraction, to be jerked out from its normal relations with adjacent muscles; and it cannot return to its natural position without some artificial aid. With no muscle is this accident more likely to happen than with those concerned in the varied movements of the spine. Here are in play muscles which act at varying angles, packed in close array; and these, with sudden or with disorderly movements of the parts, are perhaps of all most liable to be compressed out of their natural lines. Slender muscles—those of small size placed amidst others of greater magnitude—are of course the ones more readily displaced; whilst large masses of muscle, such as the glutei, are, from their bulk and their connections, evidently less, if at all, liable to be dislocated.

* *Œuvres Posthumes*, t. ii, p. 177.

† See, with reference to these dislocations, Dr. Wharton Hood *On Bone-Setting*, page 150.

But what are the signs which attend and point out these muscular luxations? Tearing of cellular surroundings, perhaps straining of nerve-filaments, rupture of small vessels, and pain and discomfort in trying to put in action the displaced muscle; these are signs enough to point to the nature of the hurt. In a word, the inability to use the muscle without pain (such pain as is often so severe as to prevent absolutely the action of the muscle affected) is a sign of this hurt as surely as is the inability to use a joint a symptom which, after a recent accident, raises the suspicion of a straining or rending, with consequent displacement, of some one or more of the structures which perfect the joint movements.

The relation of a case in point will probably help to a better understanding of these dislocations, and will conveniently introduce the question of treatment.

A man, twenty-seven years of age, was going downstairs with a heavy box supported on his back. He slipped on one of the steps, but recovered himself with an effort, in making which he swung half round, having his right hand on the baluster; the weight of the box as he swung requiring a sudden effort for its support owing to the momentum given it by the swing. He at once felt a severe pain in the right lower dorsal region of the spine; and when I saw him, he placed his hand by the side of the spinous processes and indicated the site of the trouble. Here there was tenderness over a circumscribed area; and on rotating the body as far as possible on the pelvis, there was a certain movement which caused great pain; and with the hand over the painful spot, one could feel a slight swelling, or perhaps one should say I thought I could detect an irregularity in this situation.

In treating this case, the first point to see to was the placing of the patient in a position in which he was most free from pain. Then, placing the hand, or rather the hand armed with a pad of lint, firmly over the painful part, the patient was made to repeat the movement productive of pain. No second trial was needed, but under the pressure the muscle slipped into place, and the patient was at once relieved of the pain and could move without difficulty. The parts were protected with a pad and bandage, and for a time he was well. He suffered, however, from further dislocations; but, having noticed the treatment, he found he could always relieve himself by repeating the simple manoeuvre which has been described. And this is the worst of these cases—easy to relieve, there remains the risk of a recurrence of the displacement.

A man aged forty-six was playing at lawn tennis, when he felt a sudden movement with intense pain in the right forearm. He rested the arm, had advice for the trouble, but the pain persisted. Two months after the injury, I had the opportunity of seeing him. When the accident happened, the forearm was suddenly thrown into the extreme of pronation whilst he was making a back-stroke. On examining the arm, there was tenderness along the course of the pronator radii teres, and the pain in the forearm was severe when the hand was moved in pronation. The hand was brought into pronation, and, with a pad fitted to and applied over the course of the pronator, firm pressure was made upon the muscle whilst the hand was carried to the extreme of supination. The pressure, the patient said, gave relief, and on removing it the pain had ceased; the forearm could now be freely moved. The parts were rested in a sling, and he was told to keep the arm quiet. In two days' time, he again tried the muscle at lawn tennis, and again the pain recurred. The muscle was again returned to its place, and this time the arm was so fixed that the muscle was secured against a further dislocation; and, as no movements have since been made which could cause its displacement, the patient has remained well.

It was this case—its simplicity, and yet the impossibility of righting the trouble without recognition of its cause—which led me to look into this subject, and my search brought under my notice M. Pouteau's essay. I need not give you in full the case, which is charmingly related by the French surgeon, and which led him to give careful consideration to the question of muscular dislocations; but briefly it was this. A girl fourteen years of age was looking out of a window, and twisted her head quickly, as much as she could, from left to right, to see and to speak to a person on the floor above, immediately over her head. She felt an acute pain, with the sense of a sudden shock or jerk, in the upper and right side of the neck. The head was immediately drawn towards the right shoulder, and could not be moved from this position; every attempt at so moving it being followed by intense pain, which was even severe continuously. M. Pouteau gives his reasons for supposing that the displacement had occurred in some one or more of the digitations of the splenius. The first thing he did was to relax the affected muscle; he then made pressure with the thumbs on the central line of pain, then stronger, rubbing with the hand, and at last with a pad of lint. This treatment effected the reduction of the

dislocation. The patient recognised a slight jerk, the pain was allayed, and free movement was regained. Some years before M. Pouteau wrote, I should mention that another surgeon, M. Lieutaud,* had described certain lumbar pains as due to muscular dislocation, and had stated that they could be cured on the spot by reducing the dislocation; and his treatment, which is similar to that of Pouteau, was followed by successful results. But he has not gone thoroughly into the subject, and certainly makes no mention of the signs by which these dislocations may be recognised, or their existence be suspected. The symptoms, it is true, which indicate the possibility of a dislocation of a muscle may result from the contraction of a muscle after tearing of its fibres from some of their attachments, or from the contraction of a muscle which has been suddenly strained or jarred; but, as has been said, it is well in a case of doubt to try the simple remedy for the treatment of a dislocation; for if this fail through the hurt proving to be a strain or a rupture of fibres, no harm can result to the patient from the ordinary treatment, which it would have been wrong not to have tried whilst a possibility existed that a muscle-dislocation required reduction. A displacement, too, which is not likely to be righted without treatment, and which not unfrequently falls at last into the hands of charlatans, who, in their active treatment by manipulation, are apt to secure a remarkable success; or failing this, remains as a stiffness and aching in a particular region, which will always be complained of by the patient and will continue to be associated in his mind with the accident, which he is likely to think may have had more done for it in its earliest treatment.

If, then, you come across a case in which sudden or unusual movements of the body have been followed by pain—local in its character—made worse by certain movements, or preventing certain movements, and especially if such pain be referred to the site of muscular digitations about the spine or to that of long comparatively slender muscles, as in the forearm, it is at least worth your while to try the simple measures which we may use for reducing the dislocation of a muscle. First, guided by the pain, decide as to the muscle or digitation of a muscle probably the seat of the trouble. Secondly, relax this muscle so far as you can. Thirdly, by firm manipulation, such as by rubbing with the hand or by kneading with the thumb, endeavour to replace it. Fourthly, if this fail, make pressure over the part whilst you bring the muscle into action or put it on the stretch; and, if the less painful measures have failed, this is almost sure to bring the muscle into position. I fear all this has to be done without the employment of an anæsthetic. We need guidance from the patient; we require action in the muscle. Some amount of pain is inseparable from the treatment of these dislocations.

ORGANIC DEMENTIA; LOSS OF VERTICAL EQUILIBRIUM AND OTHER MOTOR PHENOMENA; TUMOUR OF LEFT TEMPORO-SPHENOIDAL LOBE OF BRAIN.

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THE following notes are intended as a contribution to the further elucidation of the motor, and possibly mental, disturbances depending on organic brain-lesions, and as a sequel to Case I in the interesting series of pathological illustrations reported by Dr. Ringrose Atkins in the JOURNAL of May 4th.

J. P., aged 60, married, bootmaker, was admitted on October 12th, 1877, with his first attack of seven days' duration. He habitually sat rocking himself from side to side; was moody and depressed in manner. He was incapable of sustaining any conversation for more than a few seconds. Two daughters had been patients in this Asylum; both exhibited melancholic symptoms, and both were discharged recovered; but one still became bad at times, was low, excitable, and talked to herself incoherently. The patient was said to have had a child by his own daughter, but was tried and acquitted of this unnatural offence, about eighteen years ago; and this, preying on his mind, was said to be the cause of this attack. He was said to have drank somewhat, but apparently not to excess. He had been in a depressed state for some time, but continued at work as a jobbing labourer till seven days ago, when this depression became worse, and he was, on October 11th, taken to the workhouse. He had had parish relief, but it was doubtful if enough, for some time. He was very stupid, and nothing could be made of what he said. He muttered unintelligibly and incoherently

* *Précis de la Médecine-Pratique*, p. 557. These dislocations are possibly referred to by M. Portal and M. Duvenoy.