TREATMENT OF CHRONIC FIBROSITIS BY MANIPULATION.

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According to Dr. Luff, the principal pathological change in fibrositis is an inflammatory hyperplasia of the connective tissue elements leading to swelling and thickening of the fibrous tissues. This condition may undergo absorption and so completely disappear, if it is suitably treated, or it may pass into fibrous tissue, with the formation of nodules and patches of thickening. These patches are tender and painful on pressure or on movement, and quite often are felt on palpation. This is a brief explanation of the pathology of fibrositis in the acute stage.

Dr. Howard Humphris in his book on physiotherapy estimates that one-fourth of the cases of fibrositis that have come under his notice have a history of gout, or of goutiness. Among other causes, however, besides gout, or rheumatism, it should be borne in mind that imperfect absorption and elimination of the products of excessive muscular action can give rise to a similar condition of irritation in the fibro-muscular structures. Again, violent muscular exertion often causes slight tears of the muscle fibres and a subsequent exudation of blood and lymph is apt to organise and set up a chronic fibrositis. It is mainly on this latter condition that the value of manipulation is based.

It was Dr. Wharton Hood who pointed out in 1871 the value of manipulation in certain cases of stiff joints. Since then medical men have gradually adopted the methods he described for restoring function in joints where mobility has been impaired by adhesions arising from trauma or other causes. Many surgeons from time to time have written on this treatment which, previous to Wharton Hood's articles on "Bone Setting," lay mainly in the hands of unqualified practitioners termed "Bonesetters." The usefulness of skilful manipulation of joints, from massage to the carrying out of routine movements under anæsthesia, is now fully recognised. Apart from the manipulation of ankylosed and partially ankylosed joints, much benefit can be derived by judicious manipulations of muscles, which remain stiff and painful as a result of fibrositis arising from trauma or rheumatism.

In cases, where simpler methods of treatment, such as massage, heat and other means have failed, the question of manipulation under light anæsthesia should be considered.

Neck.

Muscles in the region of the neck are commonly found to remain stiff and painful, with limitation of action, as the outcome of a wrench of the head, caused by a fall on the head or across the back of the shoulders, hunting, steeple-chasing, and Rugby football being fruitful sources of such an injury.

Patients suffering from this condition often complain of periodic attacks of acute headache in the occipital region, and to painful interference with movements of the head, symptoms which either entirely disappear or become markedly alleviated by the treatment advocated. On examining cases of this type the trapezius, sternomastoid, splenius and scaleni muscles will usually be found indurated, sometimes throughout the whole length of those parts connected with the neck, more often in certain areas, especially close up to the attachment of the muscles to the skull. Palpation gives the impression of a localized muscular cramp.

These patches are apt to be tender on pressure, movements of the head both active and passive are painful and restricted.

The head is normally capable of a large range of movement by voluntary action. With the patient flat on his back, the range, especially that of rotation, can be considerably increased by passive movements. Indeed a lateral movement of the head can also be obtained which, save in Eastern dancing girls, is rarely a voluntary action. When examining a patient therefore, the voluntary movements of the head should be compared with those achieved passively with the patient lying on his back. Slight traction of the head should be made when carrying out this examination, which if normal, should be entirely devoid of pain, and easily accomplished without employing any force. Should both voluntary and passive movements be found defective with the muscles indurated or crampy, manipulation holds out an excellent prospect of recovery, provided a radiograph shows no changes in the cervical vertebræ. Even when these are to be seen manipulation of the muscles alone without any attempt to increase the existing range of movements of the head, will prove often most helpful in relieving the pain.

Generally speaking, it is always advisable to have the patient anæsthetised for the purpose of manipulation, not so much for the avoidance of pain as to ensure relaxation of the muscles, and in order to prevent involuntary resistance. Before carrying out any movement of the head, the affected muscles should be kneaded firmly between the fingers and thumbs of both hands laterally throughout their length. This done, the head should be grasped with both hands with the fingers behind the occiput and the head put slowly through its movements. Where undue resistance is experienced the contracted muscles should again be firmly kneaded while at full stretch especially at the point of insertion. The sequence of the motions I personally adopt is: 1st. Flexion of the head as in looking at the ground; 2nd. Retraction; 3rd. Moving the head alternately sideways so that the ear approaches the shoulder. It is advisable during these movements to knead the muscles once more; in order to do this the forearm should be pressed against the side of the head so as to keep the muscles taut. 4th. Rotation of the head is then carried out which normally will bring the chin past the point of the shoulder; finally moving the head laterally.

Although a patient will often find an immediate increase of mobility of the head with much diminished pain, it is advisable to give for a few days a course of massage and infra-red radiation, or some other kind of heat until the restoration to normal is accomplished. It should be borne in mind that violence or undue force should never be employed; neither should the patient experience any severe pain nor inflammatory reaction as a result of these movements judiciously applied.

Dorsal Region of the back.

Falls upon the back behind one of the shoulders, by violently forcing the scapula to rotate forwards will often give rise to a painful condition of the muscles in one of the four quarters which proves most intractable.

Passive movements of the shoulder joint are as a rule painless and normal, with exception of adduction of the arm across the chest, which may occasionally give rise to pain in the region of the vertebral border of the scapula. On the other hand, voluntary movements though unrestricted are apt to be painful and if performed with any degree of violence or exertion occasionally set up pain lasting from minutes to hours, the common sites for which are, the suprascapular region running

up the neck to the head; and the vertebral border of the scapula. The muscles most affected appear to be the trapezius and presumably the rhomboids.

Examination will often reveal induration and tender patches of crampy muscle in these regions while occasionally rustling of the muscles can be detected similar to that felt in tenosynoritis.

In the manipulation preliminary kneading should be undertaken before stretching the stiffened muscles. Where pain is experienced from the shoulder up the side of the neck, the head should be flexed and moved away from the affected shoulder, while once again the indurated muscles are kneaded when on the stretch. Follow this with deep kneading of the trapezius from the vertebral border of the scapula up towards the neck. Then with the palm of the hand push the scapula forward round the thorax at the same time firmly kneading the muscles of the vertebral border when on the stretch.

Sprains of the lumbar muscles can be caused in a variety of ways and are the cause of that condition termed traumatic lumbago which can prove very obstinate to treatment. When the condition fails to respond to ordinary methods, manipulation holds out excellent chances of speedy recovery. I do not refer to the manipulation employed when an attempt is made to reduce some subluxation of the sacroiliac articulation.

The latissimus dorsi, the erector spinæ and other low-lying muscles are those usually affected. The glutei close up to the crest of the ilium are also occasionally found indurated and crampy. Examination will show that mobility, on the injured side, is slightly impaired, since this condition is mainly unilateral. The muscles of the affected area will be found tense and indurated. Forward bending as in touching the toes is performed with no alteration of the normal lumbar curve, the patient bending with a straight back. Lateral bending towards the sound side will also be liable to be defective and pain experienced over the contracted area. A radiograph should be obtained to eliminate any bony changes before undertaking manipulation.

With the patient anæsthetized first, the thigh on the sound side should be flexed on to the trunk and the knee pressed against the chest and then straightened. Second: the thigh of the affected side should then be brought up in the same position, which will often offer more resistance before the knee touches the chest wall than has been found on the sound side. Third: grasping both legs beneath the knee both legs should be pressed against the chest and the trunk lifted so that the pelvis is raised; this flexes the whole lumbar region. Fourth: straighten the legs once more, then place the hands beneath the lumbar region and lift so as to hyperextend the spine and thus accentuate the lumbar curve. Apart from the usual after treatment of massage and heat, special exercises are advised to restore the flexibility and strength of the lumbar muscles.

The muscles of the forearm as a result of tennis, fishing, fencing, often become indurated and crampy. This condition commonly called "tennis elbow," unlike those of the neck and lumbar region, has as a rule a gradual onset. The muscles most usually affected are the supinator longus, supinator brevis and the extensors, which in cases of long standing will be found densely indurated from its origin down through the whole belly of the muscle. There are different grades of the so-called "tennis elbow," but reference here is to the purely muscular condition and not to those where inflammation of an adventitious bursa limits the pain to the antero-external aspect of the elbow.

In cases of long standing where a purely fibrositic condition is present, apart from the pain aroused by certain actions, full extension of the forearm with the hand in supination is apt to be painful and limited, although extension with the forearm midway between pronation and supination is easily and painlessly accomplished.

Preliminary manipulation of the whole length of the supinator by lateral kneading between the fingers from above downwards, followed by full extension of the elbow with the forearm in position of full supination and further firm kneading, is often found most effective in bringing about recovery.

Thigh.

The adductor muscles of the thigh are liable to become contracted and painful as a sequel to the severe wrench or partial rupture of some muscle fibres in the so-called "riders strain." Instead of recovery this condition, which is nearly always unilateral, gradually becomes chronic. Occasionally cases are seen where the onset is more gradual due to some constant overstrain of the adductor muscle group. The history of the commoner type of chronic riders' strain shows that a severe sprain was originally caused by some sudden call upon the adductors such as a horse jumping unusually big, landing awkwardly over a drop fence or any unexpected movement which has caused violent abduction of the thigh. From the effects of this sprain the patient has never entirely recovered but finds that the lesion has a tendency to re-occur with increasing frequency as time goes on.

Examination of these cases will show that the adductor muscles are indurated and contracted usually from the junction of the middle and upper third of the thigh, up to their attachment to the pubic bone. Abduction of the injured leg and external rotation will be found below the normal as compared to that of the sound side, while the affected muscles are often tender on pressure, especially close up to the pelvis. The chronic condition is met with far more frequently in men than women, although in these days, when the habit of riding astride is so universal, cases of riding strain are occasionally encountered in women. Singularly enough it is a condition rarely if ever seen in jockeys, flat or steeplechase, possibly due to the modern seat and the short leathers they use.

Where the onset of the chronic riders' strain has been gradual, the patient complains of a dull aching pain in the adductors during or after riding which becomes more and more noticeable. In examining this type, which is often bilateral, patches of very dense thickening may be found in the muscles which are lacking in resiliency, and a radiograph not infrequently shows the presence of a myositis ossificans; in these circumstances manipulation or massage is contra-indicated.

As in all cases of manipulation for fibrositis, firm kneading transversely throughout the length of the affected muscles should precede the stretching of the adductors and the external rotation. Then while the muscles are on the stretch the kneading should once more be employed. I have heard it stated that the muscle most usually affected is the sartorius; from this I dissent, and in my experience the sartorius does not enter into the damaged group of muscles which are almost invariably the adductors, and pain experienced high up in the affected groin, running sometimes up to the anus.

Heat, massage, and graduated exercises to re-educate the adductors should follow as after treatment.

In addition to those parts of the body where the muscular structures are most commonly damaged and liable to chronic fibrositis, cases are frequently seen in other situations where some muscle or group of muscles are incapacitated in similar fashion. Tendons adherent or partially adherent to their sheaths as a sequel to tenosynovitis are not uncommon both in the anterior or posterior aspect of the wrist and ankle joints.

In such cases, although full movements of the joint are apparently unaffected, yet some actions, more especially where much strain is employed, will set up a localized pain sufficient for a short time to inhibit further use. In these cases manipulation will often afford complete relief.

Likewise judicious lateral manipulation and stretching is advocated where muscles have been partially torn and become matted, leading to inability to withstand normal strain without pain or re-tear, as for instance where partial rupture of the gastrocnemius and other muscles of the calf has been sustained. When dealing with this type, manipulation should be entirely lateral and great care exercised in the stretching. In these cases the period necessary for the subsequent massage and re-education of the muscles will probably be longer than where there has been no material damage to the muscle.

Manipulation for flat feet as described by Mr. Bankhart, or where gradual flattening of the transverse arch has led to a stiff painful condition of splay foot and other types of metatarsalgia may also be said to come under this heading.

Although the large majority of cases of fibrositis has been the result of trauma, yet some, especially where the neck has been concerned, have undoubtedly been of toxic origin.

It is not maintained that a prolonged course of massage and heat and other means would not in some instances bring about recovery, but that manipulation in chronic cases undoubtedly hastens restoration to a painless and normal condition. The lateral kneading advocated between the fingers and thumbs previous to stretching of the affected muscle has proved more efficacious than in stretching alone.

It can not be too strongly stressed that a radiograph should be obtained before deciding upon a manipulation which necessitates movement of the vertebral column or for those cases where the possibility of myositis ossificans exists.

In the manipulation itself, there are two important points to be borne in mind, the administration of anæsthesia and avoidance of all sudden jerks or any semblance of roughness. Provided due attention is paid to these safeguards, manipulation will be found a safe and valuable aid in the treatment of a condition which can be most distressing to the patient.