TREATMENT IN GENERAL PRACTICE

This article is one of a series on the management of some of the rheumatic diseases met with in general practice.

SPONDYLITIS: OSTEO-ARTHRITIS: LUMBO-SACRAL AND SACRO- ILIAC STRAIN

BY

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Spondylitis

Spondylitis is generally regarded as synonymous with arthritis of the spine. There are two main types—ankylosing spondylitis and spinal osteo-arthritis—and the former of these, while having much in common with rheumatoid arthritis, differs in important details, but spinal osteo-arthritis presents no essential difference from osteo-arthritis elsewhere and calls for the same general principles of treatment.

Ankylosing spondylitis is a disease of late adolescence or early adult life: patients whose symptoms appear to have begun in the forties will generally be found to have had premonitory symptoms years before. Transient rheumatic pains in the back, or often in the limbs, clearing up without trace at first but gradually becoming more persistent and settling in the back should arouse suspicion and call for systematic treatment. Movement becomes more painful and stiffness more pronounced until the spine is a rigid bar; in the majority of cases by the time this has occurred ankylosis of the hip-joints will have taken place and there will be some degree of stiffness of the shoulders and knees and perhaps of the mandibular and sterno-clavicular joints. In most cases the ankylosis seems to start in the sacro-iliac region and spreads very quickly to the lumbar spine and the hip-joints.

There is marked absorption of calcium from the adjacent bones, side by side with ossification of the ligaments and the outer portion of the intervertebral disks, complete bony union being the result. Sometimes there are quiescent intervals with considerable improvement, but after months or even years the symptoms generally recur. The chest becomes fixed from ossification of the costo-vertebral joints, and pulmonary complications are likely to prove fatal.

Treatment of Spondylitis

Three main principles must be observed: (1) to raise the resistance by attention to the general health and nutrition and by dealing with any obvious focus of infection; (2) to guard against the development of deformity and to maintain mobility; (3) to adopt any special medicinal treatment that may seem likely to help.

The first object calls for much the same regime as would be adopted in treating tuberculosis—suitable food, hygienic surroundings, fresh air, and sunshine, the last-mentioned not to be overdone. Cod-liver oil is indicated, but if it cannot be tolerated the vitamin A and D preparations may be substituted. Rest in bed or on a couch is essential so long as the disease is active, but in the milder cases a certain amount of gentle walking exercise may be permitted for only brief periods. Systematic breathing exercises must be carried out to maintain so far as possible the mobility of the thorax; the joints of the limbs must be put through a full range of movements in the lying posture daily. When deformity has already appeared—generally dorsal kyphosis with flattening of the

lumbar curve—the patient must be kept in bed, lying in a plaster shell moulded to the back but straightened out slightly before it has set. The shell is padded with cotton-wool, the amount being gradually reduced until the back has straightened to fit the shell. A fresh shell, a little straighter, is then made, and the process repeated until the back is as straight as may be possible. A spinal support should then be made which can be worn permanently.

VACCINES AND GOLD

Vaccines do not appear to be of service as usually given, but the intradermal vaccination devised by Ponndorf is sometimes valuable, probably acting as a non-specific desensitizing agent. The Ponndorf B vaccine, which has bovine tuberculin as a basis combined with mixed strains of streptococci, is the most suitable. It is used by rubbing into a scarified area on the arm as in ordinary vaccination; about a quarter of a tube over a square inch of skin surface may be tried at first and repeated at intervals of two or three weeks, gradually increasing the amount. There is generally a local reaction with redness and some exudation, with a slight rise of temperature on the second, third, or more often the fourth day, and some increase of pain and stiffness may be experienced.

Gold may also be tried along the lines adopted in the treatment of arthritis. The dose should be small and only very gradually increased. I prefer myocrisin, giving an initial dose of 0.01 gram, repeated every four or five days with an increase of 0.01 gram each time till a total of 1 to 1.5 grams has been given, when an interval should be allowed before a second course is started. Frequently no definite effect is noticeable until the second course. Toxic effects—albuminuria, stomatitis, and skin rashes—must be watched for. The simultaneous administration of calcium lessens the risk of complications; liver, too, is often of some value in this direction and as a general tonic. Radium emanation in solution and thorium preparations, hypodermically, have been extensively tried in France, and good results are claimed.

LIGHT THERAPY

Local applications of infra-red rays to the spine relieve pain. Ultra-violet irradiation also has a beneficial action as a general tonic and by tending to counteract the decalcifying process in the bones. X-ray treatment to the spine has sometimes given good results. Light general massage to maintain the tone of the muscles and improve the circulation will do good, but hard rubbing and forcible manipulation are absolutely contraindicated. A course of spa treatment will be of value if it can be prolonged over several weeks and combined with the regime of rest and systematic exercises already described, but the ordinary "cure" of three or four weeks is not likely to be of much service. Deep immersion baths in which exercises can be carried out and combined with douching to the spine are the most generally useful procedures.

Osteo-arthritis

Osteo-arthritis is mainly a degenerative condition, though it may be associated with toxic conditions such as tend to cause degeneration elsewhere, especially in the circulatory system, and treatment must be dependent on these factors. Those joints which have had their cartilages damaged by accidents, often slight but repeated, or by

excessive use as may occur in certain occupations, or by previous attacks of gout or other forms of arthritis, are likely to be affected. Any interference with the blood supply reduces the power of repair and making good of ordinary wear and tear; hence arteriosclerosis is an important cause of osteo-arthritis. Osteo-arthritis of the hip is common among riding men, and this, while possibly associated with trauma, has been attributed to the obstruction of the blood supply through compression of the artery of the ligamentum teres owing to the extreme abduction of the hip. This may explain the occurrence of osteo-arthritis in other occupations.

The pathological effect of these varied causes is degeneration of the cartilage, which gradually becomes worn away or destroyed and the underlying bone becomes denser and often eburnated. Small areas of osteoporosis giving the appearance of cysts may be detected in radiographs, and osteophytes form around the margins of the affected joints, Nature's attempt to reinforce the weakened structures. These osteophytes are not of importance unless of such a size or in such a position as to interfere with the free movement of the joint. Many patients have been needlessly alarmed when a radiograph taken for some other purpose has revealed their presence and the radiologist has reported that there is arthritis—without any qualifying adjective. Such new bone formation may be present, in the spine particularly, for many years without giving rise to symptoms; in the absence of definite symptoms spinal osteo-arthritis is not important, but it must be clearly distinguished from spondylitis of the ankylosing type.

SYMPTOMS AND PROGNOSIS

The earliest symptom may be pain, but this is very variable and is most marked where there is pressure on the damaged cartilage; hence it is common when the hip-joint is effected, but is often absent in osteo-arthritis of the shoulders, the hands, or the spine. Stiffness of some degree is almost always complained of, due in the earlier stages to muscle spasm and to fibrositis, which is frequently present in the tissues around the joint; later, limitation of movement becomes more pronounced from thickening and contraction of the joint capsule and the formation of osteophytes.

Osteo-arthritis does not tend to shorten life, but the degenerative and hypertrophic changes persist and increase unless the factors of strain or overuse can be removed and the circulation improved. Otherwise disability will increase steadily, and if the hip is affected lameness may be marked. Unless care is taken to carry out movements of extension of the hip regularly the limb may become flexed and often adducted, making walking difficult or impossible. In the case of other joints the results are less serious.

Treatment of Osteo-arthritis

Attention must be given to the general condition with a view to lessening strain on the affected joints and to checking so far as possible the degenerative processes. Patients are often overweight, and as this throws additional work on the hips and knees reduction of the carbohydrate intake will be indicated. If the blood pressure is raised or there are signs of renal inadequacy the nitrogenous foods will need to be controlled. In general it may be said that a reduction all round within reasonable limits is desirable. Care must be taken to secure regular and adequate bowel action, as toxic absorption from this source appears in some cases to be an aetiological factor. So far as possible strain on the joints and excessive wear and tear must be avoided; but complete rest is not desirable; the joints should be put through as full a range of movement as they are capable of daily. A calliper splint adjusted to take the weight off the affected

limb is often useful in hip- and knee-joint cases, and gives great relief from pain. Although it may be irksome at first the relief is such that most patients are glad to put up with the inconvenience. In the case of the back a firm well-fitted corset or brace may help but is not often required, and in other joints which are not bearing weight splints or supports are unnecessary.

Obvious septic foci should be treated on conservative lines. Extraction of septic teeth is desirable when the condition of the patient permits, as the constant passage of pus into the stomach and general circulation has a prejudicial effect on the health, but there is no evidence that pyorrhoea or any other source of sepsis is a direct cause of osteo-arthritis.

HEAT AND MASSAGE

Measures to improve the circulation in the neighbourhood of affected joints should be adopted, and for this purpose the various methods of applying heat are useful: for deep-seated joints like the hip diathermy is best and often gives marked relief from pain; in other cases infra-red rays may be used with advantage. If judiciously used light massage may be of value to reduce muscle spasm, to improve the local circulation, and to promote resolution of fibrositic thickening; but deep massage should not be applied to the joints themselves; their condition is often the result of injury and such treatment will only increase the damage. This does not, however, debar gentle superficial friction with analgesic liniments, such as salicylate preparations, which frequently give much relief from pain.

Iodine ointments are often used in this way, and the iodide of potash and soap liniment is sometimes effective in promoting absorption of fibrositic thickenings, but it is obvious that osteophytes cannot be rubbed away or removed by these or any similar procedures. Iodine may also be employed in the form of an oily solution such as lipiodol for injection into the muscles in the neighbourhood of the affected joint; 1 or 2 c.cm. every two or three weeks, or at longer intervals, provide a reservoir of the drug from which absorption into the circulation continually goes on with definite relief of pain and stiffness in many instances.

IONIZATION

Ionization is another useful method of applying iodine or other drugs which is adapted to joints more superficially situated, iodide of potassium being used, or, if chlorine ions are desired, T.C.P. (trichlorophenyl-iodo-methyl-salicyl). Periodic courses of treatment at a spa are very helpful; the use of deep hot immersion or pool baths facilitates the movement of stiffened joints often to a remarkable degree. While in the bath douches are applied to the joints and exercise a deep but gentle massaging effect without injuring the tissues. Previous to the bath the application of local or general vapour baths, hot air, or packs of mud or peat enhances the local effect by producing vaso-dilatation and a free flow of blood and lymph. Douche massage is also employed, but is not free from the risk of inflicting further injury on the already damaged joints. The beneficial effects of rest and change combined with the eliminative action of the mineral waters add to the value of the treatment.

DRUG THERAPY

The internal use of drugs is of little value. In giving iodine the French tincture has its advocates, but I prefer a solution of pure iodine in rectified spirit (30 grains to 1 ounce). It should be taken in milk, which disguises the taste, beginning with one drop three times a day and increasing by one drop every three or four days until five drops are being given. This dose is continued for a month or six weeks, then reduced again and omitted for a period, after which it may be repeated; this course

may be followed for as long as is desired. Organic iodine compounds may be better tolerated. Sulphur was formerly popular, particularly in combination with guaiacum in the form of a confection known as the "Chelsea pensioner." A combination of iodine with intestinal antiseptics appears to be of service in some cases (aliphidine 1/2 grain, guaiacol carb. 5 grains). Aspirin is useful for the relief of pain, which is sometimes severe and interferes with rest; if insufficient alone it may be combined with phenacetin, and the addition of a small dose of codeine appears to be still more effective.

None of these remedies can be expected to remove the osteophytes or repair damaged cartilages, but they are probably effective in relieving associated fibrositis and perhaps in slowing the progress of the degenerative changes which characterize the disease.

Sacro-iliac and Lumbo-sacral Strain

These conditions are traumatic in origin; they may either occur independently or be combined. The commonest cause is attempting to lift a heavy weight which slips and throws a sudden and unexpected strain on the muscles and ligaments of the lumbar spine or sacro-iliac joints. Long-continued postural strain may produce the same result, and a prolonged surgical operation, with full muscular relaxation, without support to the loins being provided, is frequently followed by chronic pain in the back due to lumbo-sacral strain. It is important to remember that ligaments are well supplied with sensitive nerve endings and will react to undue tension with pain. A reflex effect of the pain may be persistent spasm of groups of muscles—a source of further pain and stiffness. The pain tends to radiate; sciatica is frequently due to sacro-iliac strain.

Treatment

If on examination any deviation from the normal, such as scoliosis or flattening of the normal lumbar curve, is detected an attempt should be made to correct this by manipulation. An anaesthetic may be necessary, but any forcible measures are best left to the orthopaedic surgeon, and x-ray examination will be a wise preliminary. Often, however, hyperextension of the hips and lumbar spine, or in other cases flexion of the thighs on the abdomen, with only such force as can be employed without the aid of anaesthesia, will produce satisfactory results. Such a procedure may advantageously be preceded by the application of heat to the back, radiant heat, poultices; or even a prolonged hot bath will relax the muscles and enable the necessary manipulation to be more easily carried out, and massage to muscles obviously in a state of spasm will often assist. This kind of treatment can be given effectively by a properly trained masseur, and a course of heat and massage should follow the manipulation except where the strain is the result of a definite effort, when rest will be desirable after the manipulation in order to give the strained ligaments a chance to repair. For this purpose strips of adhesive plaster may be used, their exact mode of application depending on the nature of the injury, but in the lower back they should encircle the hips so as to hold the sacro-iliac joints together and relieve any strain on the ligaments. In lumbar strain diagonal strapping across the back will generally be required with or without strapping round the hips.

In chronic strain of postural or static origin massage and exercises are indicated, combined with the wearing of a suitable sacro-iliac belt or corset. Steel supports are rarely if ever required in these conditions, but care must be taken to remove the cause if due to occupation or faulty posture. Some cases result from motor driving with a badly adjusted driving seat; a cushion correctly placed will often make all the difference. A careful study of the patient's posture, habits, and occupation is essential to success in diagnosis and treatment.

PSYCHOLOGY AT OXFORD

BY

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Psychology has had a long past, but a short history. Although it was recognized as a definite branch of knowledge in the times of the ancient Greeks, and was singled out by Aristotle for discussion in a distinct treatise, its general position until very recent times has been that of handmaid to philosophy (logic, ethics, aesthetics, metaphysics), with but little independence of method and none of aim or function. Only within the last fifty years has it achieved any independent status comparable to that of the various physical sciences.

This general position is reflected in the history of psychology in the University of Oxford. Psychology has always had a place in Oxford education. The attention of generation after generation of her students has been drawn to the psychological aspects of mental processes and social behaviour. John Locke, author of the *Essay Concerning Human Understanding* (1690), who is acclaimed as the founder of modern psychology, was a son of Oxford and a student of Christ Church. His name is perpetuated in the John Locke Scholarship in Mental Philosophy (founded, like the Readership, by the late Henry Wilde, F.R.S.), for which psychology is one of the examination subjects. Psychology may also be offered as a special subject in the Honour School of Literae Humaniores, commonly called Greats. But apart from these two possibilities the subject of psychology does not figure in any of the University examinations. The whole subject has been a subordinate one within the School of Philosophy.

The Wilde Readership

The Wilde Readership in Mental Philosophy was founded and endowed in 1898. Its first holder was Professor G. F. Stout, who, after five years, proceeded to St. Andrews as professor of logic and metaphysics. He was succeeded at Oxford by Professor William McDougall, F.R.S., who held the position for seventeen years, relinquishing it eventually for Harvard, and later going on to Duke University, N.C., where he has been professor of psychology since 1927. These two names, of international reputation, prove that, however restricted and incomplete the facilities for study and research at Oxford in this subject may have been, the subject has been worthily represented in the persons of its teachers.

The term "mental philosophy" for the purposes of the Wilde Readership is defined as "the study of the human mind based on observation and experience as distinguished from experimental psychology." Thus the teaching of experimental psychology is excluded from the sphere of the occupant of the post. Although the first director of the newly created Institute of Experimental Psychology is the present holder of the Wilde Readership, there is no permanent integral connexion between the two appointments, and the appointing body in each case is quite different. On the other hand, a bias towards the medical aspects of psychology is indicated by the inclusion of "illusions and delusions which are incident to the human mind" as one of the lines along which the Wilde Reader may properly direct the attention of his students.

Oxford has been singular among great universities in possessing no laboratory of experimental psychology. Since the first such laboratory was founded, by Wilhelm Wundt the German psychologist, at Leipzig in 1879, almost every university in Europe and America has come to include such a provision in its research equipment. Shortly before the war Professor McDougall made an attempt, for a while successful, to establish a laboratory of this kind at Oxford. It would no doubt have become a permanent institution but for war-time disruption and for the abnormal conditions of the immediate post-war period, when the Reader found himself deprived of the necessary accommodation and other facilities, which were put to other urgent use.