HEBERDEN SOCIETY

A further booklet for patients was being prepared dealing with the diseases of the cervical and lumbar disks.

The Heberden Society's membership had continued to grow. Regular meetings had been held throughout the year and had been reported in the

Annals of the Rheumatic Diseases.

Commonwealth

A full report of the autonomous affiliated Associations in Canada, Australia, and New Zealand is included in the Annual Report.

HEBERDEN SOCIETY

Clinical Meeting.—At a meeting held on February 8, 1963, at St. Stephen's Hospital, Fulham, the following communications were presented:

Haemoglobin Levels in Rheumatoid Arthritis. By F. B. Gibberd (Westminster Hospital): The haemoglobin levels of 533 patients with classical rheumatoid arthritis were studied. The average haemoglobin levels of the 385 women fell during the course of their illness, while that of the 148 men remained relatively constant.

Salicylates, phenylbutazone, and steroids did not affect the haemoglobin. 24 per cent. of the men and 17 per cent. of the women in the series had dyspepsia, but the haemoglobin level in these patients did not differ from that in those who did not have dyspepsia.

In anaemic patients oral iron produced a definite rise in the haemoglobin and this continued for up to 9 months. The final haemoglobin level after iron therapy was usually about 12-5 g. per cent. and was independent of the initial level. Increasing the dose of iron above 200 mg. per day did not produce a more rapid rise in the haemoglobin. The response to oral iron was best in the early years of the illness. Intravenous iron had a similar effect to oral iron.

The lowest haemoglobin levels were found in the patients with the highest Waaler-Rose titres. The x-ray appearances did not correlate with the haemoglobin levels.

It was considered that drug treatment and dyspepsia were not causes of the anaemia found in rheumatoid arthritis. A haemoglobin level below 12-5 g. per cent. was often due to iron deficiency, but there must be some other factor, possibly the rheumatoid disease process itself, which causes the abnormally low haemoglobin levels in patients with rheumatoid arthritis.

Discussion.—Prof. E. G. L. Bywaters (Taplow): Most of us would agree with these conclusions. It is, however, very important in studies of this kind to follow the same patients right through. This study of 533 patients consists, at least in part, of patients seen once at a particular time with a haemoglobin at a particular point. If they were studied right through the picture might be different. In our study of 250 patients followed for 10 years, we found that the patients first seen within one year of onset did better, and had a higher haemoglobin level, than those who were first seen after they had had the disease for a longer period. Those seen first 3 or 5 years after the onset of rheumatoid arthritis represent a group selected partly because they have not recovered. They are a hospital-attending group, a different population from those seen within the first year. It is necessary to select your group and follow them from the start.

Dr. Gibberd: I agree. Many of the patients whose haemoglobin was estimated did not have a positive Waaler-Rose test when first seen, but developed one later. Hence the haemoglobin levels represent changes throughout the illness.

Dr. J. J. R. Duthie (Edinburgh): We are very interested in this question and our findings have been very similar. I should like to ask whether any of the patients received intravenous iron?

Dr. Gibberd: Only seventeen were given intravenous iron, and these are not included in this series, but they did produce a similar picture.

Dr. J. J. R. Duthie (Edinburgh): This is the point. You will find that these exceptionally low levels are due to iron deficiency anaemia; with treatment they then level off and the rheumatoid anaemia is left. I do not know why this happens and I wonder if you had any examples?

Dr. Gibberd: Unfortunately we had none. When the anaemia started to improve the intravenous iron was usually stopped and the long-term effects were not followed.

Dr. W. R. M. Alexander (Edinburgh): May I ask what you gave the patients when treatment terminated? Did those taking salicylates go on with the drug?

Dr. Gibberd: No. All drug treatment was stopped during this part of the study.

Dr. A. St. J. Dixon (London): Instinctively, I think one agrees with Dr. Gibberd. The three treatments are all associated with the same degree of anaemia so that it is probable that the anaemia is not due to treatment; but logically all these treatments could cause anaemia and give this result. Another point is that, in this kind of study with a large number of patients, an individual who is anaemic from drug treatment, through an individual susceptibility, may be lost in the group.

Dr. Gibberd: Statistically there is no significant difference between starting and stopping treatment with salicylates, phenylbutazone, and steroids. I have excluded those who had severe gastro-intestinal haemorrhage. There would be a different picture if they were included.
ANNALS OF THE RHEUMATIC DISEASES

DR. A. G. SIGNY (London): Can I ask if any further studies at all have been done on iron metabolism? I think haemoglobin alone is inadequate. One should at least do a mean corpuscular haemoglobin concentration. Is there a red cell defect here as some rheumatoids have? The serum iron levels are important, and it has been shown there is an increased turnover rate in long-standing cases of rheumatoid arthritis. Perhaps Prof. Bywaters can tell us about this?

DR. GIBBERD: I am afraid I cannot give you any differential figures. These tests have been done on a number of our patients but not on enough to produce any valid results.

DR. A. G. SIGNY (London): I think you may be misled by taking these haemoglobin figures by themselves.

DR. GIBBERD: I think the change in haemoglobin level we have shown is sufficient in itself.

DR. J. J. R. DUTHIE (Edinburgh): The serum iron is certainly low but not as low as one might expect.

DR. A. G. SIGNY (London): I think this may be due to the fact that there is an increased turnover.

DR. J. J. R. DUTHIE (Edinburgh): The clearance of saccharated iron oxide is very much faster.

Serum Cholesterol Levels in Osteo-arthrits. By DR. A. C. ELKIN (London): 65 female cases of primary osteo-arthritis of the hands were selected for a study of serum cholesterol levels. They were investigated to exclude any possible rheumatoid factor. The cholesterol levels were estimated by the Sackett method, and plotted against the mean for normal females of corresponding ages. It was found that the cases of osteo-arthritis had a significantly higher serum cholesterol level.

35 patients were put on an unsaturated fat diet and the cholesterol levels estimated again after 2 months. Clinical assessments were made before starting the diet and after 6 months. It was found that a significant fall in cholesterol levels could be obtained by reducing the intake of saturated fat and replacing it by vegetable oils. The clinical assessment after 6 months showed that 75 per cent. of the patients had experienced subjective improvement, and this was supported by objective signs of improvement in 37 per cent.

No undesirable effects were observed on the diet. There was an average weight loss of 7 lb. in the first 3 months after which the weight became stable.

Discussion.—DR. F. DUDLEY HART (Westminster): Did the six who relapsed deteriorate both clinically and as regards the serum cholesterol?

DR. ELKIN: Yes.

A SPEAKER: Is this a select group or part of the whole group?

DR. F. DUDLEY HART (Westminster): How many stopped and did not relapse?

DR. ELKIN: I cannot answer that specifically, but a number had stopped or modified their diet and did not relapse. I think that probably all tended to follow the principle rather than stick strictly to the diet.

PROF. E. G. L. BYWATERS (Taplow): A striking fall has certainly been shown. First, I should like to ask what may seem a silly question: Is there any evidence that cholesterol levels of this range are harmful or significant, and is there any advantage to be gained from reducing these levels apart from reducing weight? The next point is that the second estimations at the end of the 2 years were done as a whole rather later in time. Was your method checked at that time against sera kept from the first time, or against a standard? and was it checked against the Manchester sera on which you depended for your control levels?

DR. ELKIN: No, we did not check against the Manchester sera. We checked against the tests which had already been done.

In answer to the first question: I think this may have a psychological effect on the patient. They all said they felt very much better, and they had more energy and felt less tired, and their skin looked better.

A SPEAKER: Is there any connexion between weight loss and improvement?

DR. ELKIN: We did not correlate weight loss with improvement.

DR. E. W. JEPSON (Westminster): I wonder if this study was conducted during a particular period in the year? Did you start at one point in one season and end at a later point in another season? There can be a seasonal variation.

DR. ELKIN: This is an interesting point. The trial ran for nearly 3 years and we did consider it. At the end we looked at the figures from the seasonal point of view and did not notice that it had had much effect, so that the difference would appear to be negligible. Only one thing did seem to have an effect—the levels were higher during the Cuba crisis!

Saturated/Unsaturated Fatty Acid Relationships in Synovial Fluid in Arthritis. By DR. H. COKE (London): Fletcher and Lewis-Faning showed the association of obesity and increased weight with osteo-arthritis. Later, as a result of population surveys, Kellgren and his collaborators similarly related a raised cholesterol serum level with osteo-arthritis. The tendency to consider these features to be related to the saturated/unsaturated ratio of the lipid fatty acids made me think it would be interesting to extend these investigations to the synovial fluid.

In a consecutive series of new cases, statistical evidence is determined to confirm the increase in weight and in the serum cholesterol levels. The method (Sackett) was the same as in the population normals derived by Kellgren. A series of synovial fluids was examined by extraction of the lipids, and a detailed analysis was made of thirty individual fatty acids in the extract by means of gas chromatography (by the kind co-operation of British
Cod Liver Oils Ltd.). Of the results thus obtained the S/U ratio or the saturated/unsaturated ratio of the fatty acids appears to have a relationship to the type of arthritis. Preliminary results suggest that, in osteo-arthritis, the S/U ratio is above a norm, while in rheumatoid arthritis it is below the normal ratio determined by Schrade in the blood serum. This ratio has, in at least two cases been, of diagnostic significance. The relationship of the synovial fluid and serum ratios is now being studied. The raised S/U ratio in osteo-arthritis synovial fluid correlates with the similar results in the serum of degenerative atherosclerotic vascular changes.

On the basis of these findings, a pilot series of 28 patients with osteo-arthritis has undergone a trial treatment with unsaturated fatty acids, particularly present in cod liver oil. Some showed definite subjective improvement, which was unrelated to the initial cholesterol level or to the degree of its reduction by this treatment. Improvement was related only to the duration of the treatment. There were many withdrawals on account of nausea. One patient responded successfully to the intra-articular administration of a separated and concentrated fatty acid moiety after an intensive local reaction, similar to that encountered in the series reported as treated by these means in Czechoslovakia.

Discussion.—Prof. E. G. L. Bywaters (Taplow): I gather from this presentation that there is not much point in looking at the synovial fluid because the serum shows the same changes, the fluid showing the same qualitative distribution when the patient is both on and off iron.

Dr. Coke: Prof. Bywaters is certainly right in saying that the serum will do instead of synovial fluid, but one has to consider that serum is very susceptible to diet, so that you have to have a long fast to be sure you have a stable and repeatable amount, whereas synovial fluid does not fluctuate so quickly.

Clinical Symposium.—The Society held its first Clinical Symposium, on the subject of “The Surgery of Rheumatoid Arthritis”, at the Medical School of the Middlesex Hospital, on April 19, 1963.

Dr. A. J. Pbert (Manchester), in discussing the healing of surgical wounds during treatment with adrenocortical hormones, noted that there was a highly significant association between the titre of rheumatoid factor and defective wound healing, and some association with degree of anaemia and severity of trauma. Treatment with adrenocortical hormones in appropriate dosage appeared to improve the prospects of normal healing by modifying the disease process.

Mr. D. R. Sweetnam (London), in a wide review of the surgical procedures available, stressed the fact that facilities for joint medical and surgical consultation are not generally available. He drew attention to the value of minor operative procedures.

Mr. R. Tinning and Mr. D. L. Savill (Edinburgh), in describing their wide experience at the Edinburgh Rheumatic Clinic, emphasized the prophylactic value of synovectomy since it appeared to arrest the progress of the disease. Mr. Tinning described the considerable benefit resulting from excision of synovial tissue surrounding the flexor tendons beneath the medial malleolus in patients with painful ankles and swelling in the area. For the hip he advocated excision of the head and neck of the femur or, if the musculature was good, a cup arthroplasty. In discussing reparative procedures, Mr. Savill was impressed with the value of metacarpophalangeal synovectomy and repositioning of extensor tendons in correcting ulnar drift, and at times of a "Fowler's" operation adapted for the hand.

Mr. O. J. Vaughan-Jackson (London) propounded the reasons for his belief in early synovectomy as a positive approach in the prevention of the progressive destruction of rheumatoid joints. He made a plea for more surgeons to carry out controlled trials of early synovectomy, and not to wait until later when the operation could only be palliative. A recurrence in the same joint after synovectomy was unusual.

Dr. P. Casagrande (New York), in describing the Boutonnière deformity, in which the head of the middle phalanx protrudes through the lateral bands of the extensor apparatus after the middle band has given way, went on to say that this could not be the whole explanation. The deformity was commonly found with a flexor digitorum sublimis tendon involved in the rheumatoid process with or without adhesions, a flexion deformity of the proximal interphalangeal joint due to intrinsic articular disease, and the button derangement of the extensor mechanism. An important practical consideration derived from these observations. When treatment was directed only at the extensor apparatus the results might be unsatisfactory. When considered more broadly against a background of joint-tendon imbalance, a surgical attack could be expected to give encouraging results.

Mr. F. W. Holdsworth (Sheffield) had noted an increased incidence of tetraplegia due to subluxation of the cervical spine in rheumatoid arthritis since the advent of steroids. He felt that it was possible to foresee the likelihood of tetraplegia when the "step-ladder" type of anterior dislocation was present on lateral x-ray. The presence of this finding called for anterior fusion of the spine. The treatment of established tetraparesis required urgent reduction with tong traction and later anterior fusion, there being no necessity for laminectomy. An increasingly common site for dislocation has been that of the atlas on the axis vertebra, where anterior fixation is not possible and therefore wiring and posterior bone grafting has been used.

Mr. Alexander Law (London), in describing the clinical features of involvement of the shoulder joint, emphasized its harmful effect on the function of other joints of the upper limb. Synovectomy was sometimes of great value. Excision of the acromion process, although not always restoring the full range of movement, produces marked alleviation of pain.
MR. ALEXANDER KATES (London) offered a most convincing case for the operation of dislocation of the toes as a modification of Fowler's operation and an alternative to the mutilating amputation of the toes. In his operation, with an ellipse of skin excised from the plantar surface of the foot in addition to the removal of the metatarsal heads, the weight-bearing metatarsal pad is restored to its normal position. This simple operation offered a dramatic relief of one of the more persistent disabilities of the rheumatoid patient.

THE PRESIDENT, DR. G. D. KERSLEY (Bath), in opening the discussion, said that he had two cervical spines showing dislocation—preserved in jars from pre-steroid times. He emphasized the essential team-work between orthopaedic surgeon and physician in view of the need for early surgery and the management of steroid regimens. If synovectomy was to become early and universal, was there any place for medical synovectomy with chelating agents, as the alternative was to double the strength of the orthopaedic faculty?

During the very lively discussion that followed, the value of arthrodesis of the wrist was stressed. Prof. Bywaters called for control observations with surgery to one hand only and early assessment of function and x-ray changes. Mr. Pulvertaft stressed the importance of after-treatment and the will to co-operate on the part of the patient. Dr. Guthrie emphasized the difference in improvement in atmosphere and results in his clinic during the last 2 years, since he had had surgical co-operation. Mr. Bastow stressed the need for synovectomy to be carried out on the knee before the cartilage had been badly damaged, if it was to be really successful. Mr. Osmond Clarke re-emphasized the absolute necessity for team-work.

Dr. Jeffrey, while in the U.S.A. had seen little difference between the results of the use of nitrogen mustard with hydrocortisone from those resulting from hydrocortisone alone. Nitrogen mustard was very rapidly hydrolyzed and large doses could be used if a tourniquet was applied and kept in position for 15 to 20 minutes. Mr. Herschel, who had flown in from Amsterdam solely for the Symposium, also took part in the debate.

BOOK REVIEW


This little book on “slipped epiphysis” of the hip is a delight to review. It is beautifully printed and illustrated and the text is a model of clarity. The problem is illustrated in the opening chapter by citing the medical history of a rather fat girl of 11, a doctor’s daughter, who developed pain in the right hip due to a slipped epiphysis, was treated along conventional lines, and did well—perhaps by chance, because while she was under observation, a very early lesion of the left epiphysis was spotted on the x-ray plate. Treatment was started early, again on conventional lines with the best available advice, and despite all this the hip went on to crippling destruction. Such an experience seriously questioned the adequacy of conventional treatment and prompted further study, the results of which are brought together here.

The chapter on the morbid anatomy of the condition is a minor masterpiece. It is based on the systematic study of two complete specimens of femoral head and neck removed at operation (not by the author) and on a number of biopsies. A subtle dystrophy of the cartilage of the epiphyseal plate seems to be the basic fault. Instead of the cells growing and multiplying in parallel arrays of columns with a well-organized fibrous structure between the columns, the growth seems to take place in a way which, although still orderly, more nearly resembles that seen in a pseudarthrosis. This dystrophic cartilage no longer becomes successively vascularized and ossified in the normal regular manner, but develops fibrosis and fissures due to the shearing forces. Following this the head of the femur is displaced downwards and backwards by the forces of muscle action and weight-bearing, and secondary remodelling of the femoral neck takes place. Small islands of normal cartilage amidst the dystrophic structure eventually seed sufficient ossification to allow bony union, but this may be only after considerable deformity has taken place.

The author’s message is simply that the pathological process, which is probably already well advanced at the time of first diagnosis, should be treated by drilling a hole from the greater trochanter to the femoral head through the femoral neck and curetting as much as possible of the epiphysis. The organization of the wound in the bone then results in ossification which bridges the gap. He illustrates this with seven detailed case reports of patients successfully treated.

Points in the very early clinical and radiological diagnosis of this condition are fully described and there is a discussion of history, aetiology, and treatment handled with both scholarship and restraint. The cause of the condition is unknown, although the author favours genetic factors, perhaps acting through a biochemical change in a manner analogous to that of the epiphyseal dystrophy of the hip seen in experimental lathyrism. The book can be unreservedly recommended and one looks forward to an edition in English.

A. ST. J. DIXON.