ABSTRACTS

This section of the ANNALS is published in collaboration with the two abstracting Journals, ABSTRACTS OF WORLD MEDICINE and OPHTHALMIC LITERATURE, published by the British Medical Association.

The abstracts selected for this Journal are divided into the following sections:

- Acute Rheumatism
- Non-articular Rheumatism, including Disk Syndromes, Sciatica, etc.
- Rheumatoid Arthritis
- Pararheumatic (Collagen) Diseases
- Still's Disease
- Connective Tissue Studies
- Osteo-Arthritis
- Immunology and Serology
- Spondylitis
- Biochemical Studies
- Inflammatory Arthritis
- Therapy
- Gout
- Other General Subjects

At the end of each section is a list of titles of articles noted but not abstracted. Not all sections may be represented in any one issue.

Acute Rheumatism


This report from Irvington House, New York, analyses 105 episodes of recurrent rheumatic fever which occurred in 78 patients during an 11-year period while 1,000 patients who had had rheumatic fever (the “index attack”) were being followed up under prophylactic cover.

By use of Venn diagrams the patterns of the recurrences are displayed and compared with the patterns of the index attacks for severity of carditis, presence of chorea, arthritis or arthralgia. The pattern of a recurrence was determined largely by the pattern of the index attack, the manifestations of both index attack and recurrent episodes being the same. The presence of carditis in the recurrent episodes was always associated with carditis in the index attack, while recurrences without carditis were most often found in those whose index attacks were free of carditis. There was evidence of new cardiac damage during 48 of the 65 recurrences of rheumatic fever in 43 patients with cardiac involvement in the index attack, but during 34 recurrences in 29 patients with no significant heart murmurs in the index attack only four patients had apparently new murmurs, all of which disappeared later. Similarly, recurrences in six patients with possible carditis in the index attack did not cause any new permanent damage.

In 73 of the 105 recurrences the prophylactic cover had been good, but these episodes were not significantly different from those in patients who had been inadequate protected. The conclusion is that the nature of the host is predominant: the more severe the previous cardiac damage, the more likely is a patient to develop a rheumatic recurrence after a streptococcal infection.

J. A. Cosh

Streptococcal Antibody Titers in Sydenham's Chorea


[From the School of Medicine, University of Minnesota, Minneapolis.]

Antistreptolysin O (ASO), antidesoxyribonuclease B (anti-DNase B), and antinicotinamide adenine dinucleotidase (anti-NADase) titres were determined on patients with Sydenham's chorea and a matched group of controls. For each of the antibodies studied, elevated titres were found in a significant percentage of patients with chorea as compared with control individuals. This finding was also true of patients with “pure chorea” on whom antibody titres were performed within 6 months of the onset of choreic symptoms. Ten of thirty such patients failed to show an elevated ASO titre; four of these were found to have markedly elevated anti-DNase B titres. Elevation of two or more antibody tests, which is highly suggestive of recent streptococcal infection, was found in the majority (63 per cent.) of patients with pure chorea seen within 6 months as compared with the control group (10 per cent.). The practical and potential usefulness of multiple streptococcal antibody tests in patients with pure Sydenham's chorea is discussed.—[Authors' summary.]

Behaviour of Antibodies against the M Protein of Streptococcus pyogenes in Rheumatic Fever.


Methods involving the agglutination of sensitized latex particles have recently been developed for the detection of antibodies against various antigens, and it has been shown that antibody against the M protein of Streptococcus pyogenes can be detected in this way. Working at the Clinic for Infectious and Tropical Diseases of the Uni-
versity of Messina, the authors have studied the value of this test in various conditions in which the streptococcus might be an aetiologic agent. They found that in 37 out of forty normal subjects the anti-M titre was 1 : 16 or below; this correlated with the antistreptolysin-O titre, as these three individuals were the only ones in whom that titre was more than 100 units. The authors therefore consider an anti-M titre of 1 : 32 or more to be abnormally high, the corresponding value for the antistreptolysin-O titre being 250 units or more.

The serum of thirty patients suffering from a variety of acute rheumatic conditions, including rheumatic endocarditis and acute rheumatic arthritis, was studied. All of these patients had anti-M titres of 1 : 32 or more, while only 26 had an antistreptolysin-O titre of 250 units or more. The serum of twelve of these patients was examined again after treatment with salicylates, prednisone, antibiotics, or combinations of these agents. Whereas in most cases the antistreptolysin-O titre fell to normal within 3 months, the anti-M titre remained elevated in all but two. Of 32 patients with recurrent cardiac valvular disease, 22 (68 per cent.) had a positive anti-M titre and only nine (28 per cent.) had a positive antistreptolysin-O titre. Of eight patients with rheumatoid arthritis, two had a positive anti-M titre and another a positive anti-streptolysin-O titre.

These results show that the latex agglutination test for antibodies against streptococcal M protein is a much more sensitive test than that for antistreptolysin-O. Moreover, since the anti-M titre remains elevated for some time after treatment, it may be useful in indicating those patients who require further observation.

R. F. Jennison


In rheumatic carditis, in addition to the clinical findings, there are a number of laboratory tests available which help to confirm the diagnosis or measure the activity of the disease. Nevertheless, as these tests are non-specific, it is possible to miss "larval" or apparently inactive forms. The possible development of a specific test based on the recent demonstration that auto-antibodies against heart muscle are present in the serum of patients with active rheumatic carditis has been explored by the present author at the Medical Clinic of the University of Jena. The test used was a modified Steffen antibody consumption test, the antigen being prepared from endomyocardium obtained shortly after death from non-rheumatic young persons. [For details of the technique the original paper should be consulted.]

The test was applied to sera from 104 patients with rheumatic carditis, the activity of which was graded from 0 (inactive) to III, and from 100 persons with no evidence of heart disease. As very slightly raised titres have been found in individuals with healthy hearts the author decided to accept only a titre of 2 or more as positive. All the control sera gave negative (0–1) results. Of the 104 sera from patients with healed or active carditis, sixty (58 per cent.) gave readings between 2 and 5. These were distributed as follows:

Grade O, 4/28 (14·3 per cent.);
Grade I, 29/45 (64·4 per cent.);
Grade II, 17/2 (81 per cent.);
Grade III, 10/10 (100 per cent.).

It would therefore appear that there is a correlation between the titre of endomyocardial antibodies in the serum and the degree of activity of the rheumatic carditis. The test should be of particular value in the convalescent patient in deciding whether activity not demonstrable by the usual tests is still present or whether relapse is about to occur, and before operation on the heart in confirming that the disease is inactive.

D. Preiskel


Haemolytic Streptococcus from Patients with Rheumatism and Chronic Tonsillitis and from Healthy Persons. [In Russian.] Cherevushnikov, I. K. (1967). Vop. Revm., No. 1, p. 41. 16 refs.
**Rheumatoid Arthritis**

**Rheumatoid Arthritis originating in Old Age.** (La polyarthrite rhumatoïde débutant chez le sujet âgé.)


In 1965, twenty patients with rheumatoid arthritis developing after the age of 65 (mean 73.7) years were seen at the *Hôpital Lariboisière*, Paris; they represented 13.3 per cent. of all the cases of this disease seen there during the year. All had “classical” or “definite” rheumatoid arthritis (ARA criteria) and positive reactions to the Waaler–Rose test. The findings in this group were compared with those in a control group of sero-positive patients matched for sex (18 females) and duration of disease but with onset before the age of 30 (mean 38.7) years.

In the elderly patients an acute onset was commoner, systemic disturbance was usually more profound, affection of the knee joints commoner and of the metatarsophalangeal joints less common, and the ESR on average higher, than in the younger group; all these differences were statistically significant (P<0.05). The authors therefore conclude that, contrary to what other reports have suggested, rheumatoid arthritis causes more deformity and systemic disturbance in older patients than in younger ones.

B. E. W. Mace


[At the Royal Infirmary, Manchester] the marrow of patients with various haematological complications of rheumatoid disease has been studied with the electron microscope. Although there is evidence that reticulum cells may be reluctant to turn over body iron, yet there is no evidence of iron excess in the reticulum cells of the marrow nor of a morphological defect of normoblast maturation. Iron transfer is normal. Whereas, in the early stages of red cell development, iron can be seen to enter the normoblasts from the reticulum cells by the distinct process of rophoecytosis, in the late normoblast and reticuloocyte aggregates of unused iron pass back to the reticulum cells. The reticulum cell is therefore important in regulating the distribution of iron within the marrow.

The reticulo-endothelial system in rheumatoid disease shows evidence of response to antigenic stimulation. In particular, a case of Felty's syndrome showed reticulum cell hyperplasia, lymphoblasts, and material resembling rheumatoid factor in the granulocytes. Hyperplasia of the marrow reticulum may lead to a maturation arrest constituting "hyperplassemia".—[Authors' summary.]


**Pseudoxanthomatous Rheumatoid Nodules.** Watt and Baumann (1967). *Arch. Derm.*, 95, 156.


**Diagnostic and Nosological Problems in Rheumatoid Arthritis.** (Problemas de diagnóstico y de nosología que presenta la poliartritis reumatoidea.) Delbarr, F. (1966). *Bol. méx. Reum.*, 6, 45. 4 refs.


**Lymphography in Rheumatoid Arthritis.** (La linfoografía en la poliartritis reumatoidea.) Michotte, L. J., and Bogaert, P. Van (1966). *Bol. méx. Reum.*, 6, 55. 5 figs, bibl.


ABSTRACTS


Still's Disease


The treatment of rheumatoid arthritis in adults and children by means of antirheumatic preparations is beset with the problem of side-effects. Consequently, in view of the possible role of autoimmune processes in the pathogenesis of the disease, it seems justifiable to use immunodepressive drugs. In the clinical trial here reported from the Paediatric Clinic of the Dresden Medical Academy the antimetabolite chosen was 6-mercaptopurine (6-MP). The ages of the six patients (2 male, 4 female) treated ranged from 4 1/2 to 14 years, the dose of 6-MP from 1 to 4 mg./kg. body weight/day, and the length of the course of treatment from 12 days to 14 weeks, two patients receiving two courses. The indication for using 6-MP in three of the cases was the failure of all antirheumatic measures, including steroids, to influence the course of the disease; in the other three, however, it was decided to use 6-MP at an earlier stage of the disease.

One patient, the only one to receive the highest dosage of 4 mg./kg./day, was definitely improved after 7 weeks' treatment, which was then stopped on account of leucopenia and anaemia. Two others were slightly improved after 3 + 10 and 8 weeks' treatment respectively. One patient appeared to improve after a first course (14 weeks) but then relapsed during a second course, which was terminated after 9 weeks. The remaining two patients had received 6-MP for only 12 days each, when it had to be withheld because of anorexia, nausea, and vomiting. (These symptoms caused a reduction of dosage in another case.) D. PREISSEL


Pericarditis is found in necropsy studies of patients with juvenile rheumatoid arthritis more frequently than would be expected on clinical grounds. The authors have therefore assessed the incidence of cardiac involvement in 116 patients (seventy children with an average age of 7 years and 46 adults with an average age of 26 years) seen at the Rheumatism Foundation Hospital, Heinola, and the Children's Hospital, University of Helsinki, Finland. The average duration of the disease was 3 years for the children and 16 for the adults.

Seventeen patients had histories suggestive of pericarditis or carditis, and 25 had had radiological evidence of cardiac enlargement at some time, but none had clinical signs of valvular disease. The ECG showed slight prolongation of atrioventricular conduction in four patients (including two adults), and the QT interval was prolonged in two children. Incomplete right bundle branch block occurred in eight cases (seven children) but the authors point out that this phenomenon may be found in many normal children. Flattening or inversion of T waves was found in twelve patients (nine adults); none of these had clinical evidence of pericarditis at the time, but the authors believe there may well have been pericarditis that was otherwise undetected. T wave changes appear to be the most useful ECG sign of cardiac affection in juvenile rheumatoid arthritis. They may persist for 2-3 months. Serial ECGs are valuable for assessing progress, and should be recorded from the very start of the illness.

J. A. COSH


Osteo-Arthritis


Ankylosing Spondylitis


This report from the Rheumatic Foundation Hospital, Heinola and the Kivela Hospital, Helsinki, Finland,
investigates the incidence of conduction defects in patients with rheumatoid arthritis and ankylosing spondylitis. At the former hospital clinical cardiac changes were found in 14 per cent. of 149 patients with ankylosing spondylitis and 4 per cent. of 182 patients with rheumatoid arthritis. ECG abnormalities consisting of transient or persistent first-degree atrioventricular heart block were seen in 4 per cent. of the former and 1 per cent. of the latter patients. Of the 97 ankylosing spondylitic patients studied in the second hospital, 6 per cent. were found to have first- or second-degree heart block. Complete heart block was present in four patients and occurred 10–30 years after the onset of spondylitis; three of these patients were treated successfully with an artificial cardiac pacemaker.

The author believes that the conduction defects are due to a slow extension of the inflammatory changes often seen in the aorta as far as the atrioventricular node and mitral valve. He advocates radiography of the spine in all cases of unexplained heart block. [Without post mortem studies it is difficult to assess whether this was a true complication of the arthritis; there is no matched control group with which to compare the incidence. Ischaemia could be reponsible in elderly arthritic patients.]

J. S. Malpas


Inflammatory Arthropathies


Seven cases of temporal arteritis seen at the University Departments of Medicine, Helsingfors, Finland, are described, diagnosis being verified by temporal artery biopsy (two patients had been previously described). As usual, the patients were elderly, between the ages of 63 and 76 years, and the disease had lasted before admission for a period of 3 weeks to 5 months. All had local signs except one, who had slight temporal pain. One patient had an effusion in the left knee. Another had widespread muscle stiffness and joint pain. Psychic symptoms were frequent. The only specific ophtalmological complication was perivascular oedema in the temporal quadrant (one case). Rheumatoid factor was absent in six cases, and the L.E.-cell test was negative in seven cases. The erythrocyte sedimentation rate was raised in all; a mean level of 104 mm./hr before treatment subsided to a mean of 35 mm./hr after treatment with steroids. Aortic aneurysm was found and demonstrated angiographically in one case. One patient showed acute renal failure possibly due to an interstitial nephritis shown on renal biopsy.

E. G. L. Bywaters


Clinical Forms of Gonarthrosis and Therapeutic Indications. (Formes cliniques et indications thérapeutiques des gonarthroses.) Glimet, T.-J. (1967). Rhumatologie, 19, 71.


Gout

From Harbor General Hospital, Torrance, California, and the University of California School of Medicine, Los Angeles, a psychosomatic study of a patient suffering from ulcerative colitis and gout is presented. In the course of 3 years' analytical psychotherapy, a number of opportunities arose to observe the psychological correlates of attacks of ulcerative colitis and gout.

The patient was a 37-year-old unmarried male in whom the onset of gout antedated that of ulcerative colitis by many years. There was a family history of gout and the patient had persistent hyperuricaemia. He had always been overdependent upon his parents and an autistic grandmother. During treatment it was noted that exacerbations of ulcerative colitis usually occurred in situations where he felt coerced or occasionally when certain sexual fantasies were aroused. Attacks of gout occurred in situations which threatened him with separation from a key figure, notably his mother.

The author considers the case to be of interest because of the unusual association of ulcerative colitis and gout and also as a stimulus to further psychodynamic observations of patients suffering from gout.

A.B. Sclare

The Lungs in Gout. (Il polmone nella gotta.)

Although gout is a generalized disease, little is known about its possible pulmonary manifestations. In this paper from the Rheumatology Centre, Rome, the authors report a study of 48 patients with gout, eleven of whom had definitely abnormal chest radiographs. There was accentuation of the lung markings in nine cases, reticulation in eight, localized or diffuse emphysema in eight, micronodulation (miliary shadowing) in four, and hilar enlargement in two; seven patients had pleural adhesions and two developed pleural effusions during acute attacks of gout. The radiographic changes were usually symmetrical and tended mainly to involve the lower lobes. The authors stress that there was no direct relation between the extent of the changes found and the extent, severity, or clinical course of the joint involvement; they suggest it would be logical to assume that the pulmonary changes progress extremely slowly, starting with increased lung markings and evolving to frank reticulation, nodulation, honeycombing, and emphysema, pleural involvement being often associated.

The authors illustrate their findings with radiographs and give brief clinical details of two patients. The clinical and necropsy findings in a third case are presented: sections of the lungs showed patches of pleural thickening consisting of parallel layers of collagen with adjacent subpleural nodular lymphocytic infiltration and groups of anarthocytic cells; in the underlying lung, the blood vessels were congested, and there were areas of emphysema due to dilated alveoli and ruptured interalveolar septa as well as other areas of atelectasis, with desquamation of the walls and strands of granular fibrinous exudate.

Although the authors were unable to define a "gouty lung syndrome", they are convinced that the changes they describe are part of the morbid gouty process and resemble those already accepted as occurring in rheumatoid arthritis; they suggest that gout itself might be classified in a special subgroup of rheumatoid disorders which would include ochronosis and diffuse articular calcinosis.

B. Herszenhorn


Bone Disease

In this paper from the Hôpital Lariboisière, Paris, the authors discuss the syndrome of articular chondrocalcinosis, of which there have been seen 45 cases (29 in women). Eighteen patients had the acute form (pseudogout), characterized by acute attacks affecting the knee in all cases (and often no other joint), fever, and leucocytosis. Thirty patients (including five of those with the acute form of the disease) had chronic joint symptoms; in some cases there was simple arthralgia without objective signs of disease while in others the picture resembled that of rheumatoid arthritis. Two patients had entirely asymptomatic lesions discovered by chance.

The classical radiological signs of calcification were seen in the menisci of the knee or in the articular cartilage of the knee, hip, shoulder, or wrist. The intervertebral disks were also frequently affected. Aspiration of joint fluid in acutely affected joints yielded the calcium pyrophosphate microcrystals diagnostic of pseudogout; these were distinguished from urate microcrystals by x-ray diffraction studies. There were also large numbers of neutrophil polymorphonuclear leucocytes, and the crystals sometimes lay within these.

In the articular cartilage, deposits of calcium appeared round the chondrocytes and coalesced in the middle layers of the cartilage; in some cases the synovium was also affected.

The authors discuss the cause of the condition but reach no definite conclusions. There appears to be a primary form in which the abnormality may lie in the cartilage itself, and also secondary forms associated with hyperparathyroidism, diabetes, and haemochromatosis; there is thus an analogy with primary and secondary gout.

J. A. Cosh


Since 1964, 28 cases of bone fluorosis due to drinking fluoridated wine have been reported in Spain, and in this paper from the University of Barcelona, Barcelona, the authors describe the chief pathological and radiological findings. There are four main types of lesion:

(1) A slowly developing osteosclerosis occurs which gradually gives way to osteoporosis and bone atrophy; spontaneous fractures may occur in atrophic areas.

(2) Periodic outbreaks of subacute hyperostotic periostitis are seen, in which masses resembling tumours may reach the size of an almond in the fingers or of an apple in the limbs; after 3 to 5 months an osteolastic phase sets in and the pseudotumours regress or disappear.

(3) Osteophytic outgrowths into the soft tissues are found; these also become rarefied but do not diminish in size.

(4) Arthrosis is often seen, especially in the hips, knees, or elbows.

Radiologically, osteoporotic areas may be seen from the very beginning in the epiphyses of the long bones. Later, osteosclerosis occurs at these sites and the osteoporotic zone expands into the shafts of the long bones, and eventually affects the vertebral column and the pelvis. The simultaneous appearance of osteoporosis and osteosclerosis in the same bone is very characteristic of the disease. New outbreaks of activity lead to the development of stratified layers, with each layer corresponding to a period of activity.

In the osteophytic phase, isolated bone nodules may form within tendon sheaths or muscles, and the resultant picture resembles that of myositis ossificans. Osteophytic proliferation around joints may be so marked as to limit movement, and calcification may occur in the periarticular ligaments.

The authors remark that though wine fluorosis is uncommon a number of cases are probably misdiagnosed as other conditions. When it is suspected, a search for fluorine in the patient's environment and in the wine he drinks should be made, and fluorine assay should be performed on a biopsy of bone from the iliac crest; a fluorine concentration of more than 400 mg. net weight per 100 g. ash is taken as pathological.

John H. L. Conway-Hughes


Previous studies have indicated that residents in areas where the fluoride content of the water supply is high have less osteoporosis than those living in an area where the content is low.

This paper from the Harvard School of Public Health and Medical School and the Peter Bent Brigham Hospital, Boston, records the prevalence of osteoporosis in more comparable populations consuming water supplies of high and low fluoride content. The areas studied were in the rural parts of North Dakota where the people are mainly of German and Scandinavian origin or descent. The "high-fluoride area" was in the southwest part of the state where the fluoride content of the water supply ranged from 4 to 5·8 ppm (mg./litre); the "low-fluoride area" was in the northeast part of the state where the fluoride content ranged from 0·15 to 0·3 ppm. The residents of these two areas were engaged in similar occupations, mainly farming.

There was a clinic staffed by one or more general medical practitioners in the main towns of each area; 300 persons in the high-fluoride area and 715 persons in
the low-fluoride area participated in the study; all the subjects were over the age of 45 years. A questionnaire was completed by each subject, giving data concerning the length of stay in any other area, approximate daily consumption of milk and cheese, presence of back pain, and history of bone disease or fracture; further medical data (endocrine abnormalities or therapy, bone disease) were entered by the medical practitioner. A radiograph of the lateral lumbar area of the spine was taken in each case. The films were studied for bone density, osteophyte formation, and number of collapsed vertebrae; the ratio of the number of collapsed vertebrae to the number of visualized vertebrae was used because the number of vertebrae visualized on the films varied with difference in size of the subjects.

The prevalence of reduced bone density was higher in the low-fluoride area than in the high-fluoride area for both men and women; the difference was of high statistical significance in females in the age groups 55–64 and 65 and over (P< 0.01). A similar trend was seen in the men, but there was statistical significance only in the 55–64 age group (P< 0.05). The prevalence of collapsed vertebrae was significantly higher in the women living in the low-fluoride area than in the women in the high-fluoride area, with increasing significance as ageing ensued (P< 0.05 in age group 55–64 and P< 0.01 in age group 65 and over); there was no significant difference between the men of the two areas, although the incidence of collapsed vertebrae was high and also increased with age. There was no significant difference between the two areas in regard to osteophyte formation. There was a greater frequency of back pain in both men and women in the low-fluoride area, though this complaint appeared to be more common in the women.

The information concerning the consumption of milk and cheese in these population samples did not indicate that differences in the intake of calcium was a factor in producing the differences observed.

An incidental finding, obtained from study of the films, was that calcification of the aorta was less prevalent in men and women living in the high-fluoride area; this observation was of statistical significance for men in all the age groups (P< 0.05 at age group 45–54 and P< 0.01 at ages above 54) and for women in the 55–64 age group (P< 0.05); a similar though not significant trend was observed in the women of the 65 and over age group.

From these findings the authors conclude that a high intake of fluoride (4.5–8 ppm) had an important effect in preventing osteoporosis in the population studied. They also suggest that a high intake of fluoride may also be important in preventing calcification of the aorta.

Joseph Parness


Osteoporosis, whatever its cause, is associated with increased bone resorption, and serum phosphorus levels are often raised in some forms of osteoporosis. At the Mayo Clinic and Foundation, Rochester, Minnesota, the authors have tried to find a quantitative relationship between bone resorption and serum phosphorus levels. Bone resorption was measured with a technique in which bone resorption in microradiographs of bone sections is shown by uneven areas of high mineral density and bone formation by smooth areas of low mineral density; the lengths of the surfaces showing the respective appearances are measured and expressed as percentages of the total surface of bone in the section.

A study was made of 26 patients, sixteen of whom were women; their ages ranged from 43 to 79 years. Bone resorption showed a significant positive correlation with serum inorganic phosphorus levels for both sexes, even though these levels were in no case above the upper limit of normal (4.5 mg/100 ml.). There was, however, no relationship between bone resorption and age, serum calcium level, or serum alkaline phosphatase activity.

The authors suggest a causal connection between bone resorption rates and serum phosphorus levels: an increase in bone resorption (from any cause) could release calcium into the circulation with consequent parathyroid inhibition; this in turn would lead to increased tubular resorption of phosphate by the kidney and hence increase serum phosphorus levels. However, the absence of hypercalcaemia from most cases of osteoporosis tells against this hypothesis; none of the patients in the present study had hypercalcaemia.

The pathology of the condition therefore remains doubtful, but the authors point out that estimation of the serum inorganic phosphorus level may have empirical value for assessing the activity of osteoporosis.

A. Garner


[From Toronto Western Hospital and the Geriatric Centre, Toronto, Ontario.]

Measurements of cortical bone thickness of the radius at a standard site in 63 female patients with diabetes mellitus, 99 non-diabetic control subjects without and 34 with vertebral compressions in the age range from 65 to 101 years revealed that:

(1) In both the diabetic and control groups there was a significant loss of cortical bone thickness relative to years post-menopausal, independent of body weight.

(2) Cortical bone in the diabetes was significantly thicker than that in the controls, independent of years postmenopausal and body weight.

(3) In the non-diabetic controls there was a significant positive correlation between the cortical bone thickness and body weight; no such correlation was found in the diabetic group.

On the basis of these findings it appeared that involutional osteoporosis will be less prevalent among old women suffering from diabetes than in comparable non-diabetic subjects, and more prevalent among non-diabetics with low body weight than in obese old women or those of normal weight.—[Authors' summary.]

In this paper from the Hôpital Lariboisière, Paris, the authors report their study of hydroxyproline excretion by normal adults and by a large number of patients with various bone disorders. In twenty normal adults the mean output was 25±5 mg./24 hrs, and the normal range was therefore defined as 15-35 mg./24 hrs. In twenty patients with senile osteoporosis, the mean output was 27±10 mg./24 hrs, and in 21 with juvenile osteoporosis it was higher (35±10 mg./24 hrs)—that is, similar to the higher values for normal children. In thirteen patients with osteomalacia the output was raised (300-100 mg./24 hrs), and it increased further when the patients were given vitamin D. Output was increased in eight out of nine patients with hyperparathyroidism, particularly where osteolytic lesions were seen radiologically; successful removal of a parathyroid adenoma was confirmed by the finding of a sharp drop in hydroxyproline excretion to normal levels. Paget's disease (sixteen cases) was associated with very high outputs, two patients having values of 461 and 745 mg./24 hrs respectively. In patients with malignant disease and metastases to bone, hydroxyproline excretion was increased roughly in proportion to the extent of the lesions.

“Osteosclerotic” and “osteolytic” tumours were both associated with increased excretion rates. *J. A. Cosh*


After brief reference to the clinical and genetic aspects of osteogenesis imperfecta the authors of this paper from the University of Kiel point out that although the basic pathological mechanisms of the disease are at present ill-understood, it is generally accepted that there is a metabolic abnormality affecting the bone matrix. In their own investigations they have used the urinary excretion of hydroxyproline as a measure of bone matrix metabolism, hydroxyproline being a product of collagen breakdown and collagen being present mainly in the bones.

The findings are reported in a series of twenty patients aged 6-57 years with clinical, radiological, and genetic evidence of osteogenesis imperfecta. The severity of the disease ranged from the mildest to the most extensive. A control series of 64 healthy subjects was also studied. Urine for hydroxyproline assay was collected after 3 days in which meat, fish, and gelatin were totally absent from the diet. The completeness of the 24-hour collection was checked by determining the total creatinine content, and in children also the total creatine content. In the control group, the mean hydroxyproline excretion for the 36 adults (21–60 years old) was 22.5 (range 11.2-35.4) mg./hrs, and for the 28 children and adolescents (4–20 years) it was 59.08 (range 20.2-96.3) mg./24 hrs. In the group with osteogenesis imperfecta, the excretion of hydroxyproline was considered to be abnormally high in sixteen out of the twenty cases, the average value being significantly higher than that for the controls at all ages (*P<0.05 for adults, *P<0.01 for children and adolescents). For the fourteen adults a correlation between the severity of the disease and the hydroxyproline excretion could be demonstrated.

The authors consider that their findings support the morphological evidence of a disturbance of collagen metabolism in the bones in osteogenesis imperfecta.

*G. M. Berlyne*


The diagnosis of senile osteoporosis is often presumed in elderly patients with skeletal disease. The authors of this paper from the Geriatric Unit of Mearnskirk Hospital, Glasgow, noticed in their routine work that severe osteomalacia was not uncommon in elderly patients and in the belief that there may be even more cases of the disease in less florid form they investigated its incidence among 200 females (age range 68-93 years) admitted to their unit. The first group of 100 patients showed some clinical signs of osteomalacia and the second group consisted simply of 100 consecutive admissions. [Full details of the biochemical and radiological investigations and the histological techniques used are given.]

In the first group there were twelve patients and in the second group four with proven osteomalacia. The authors record that of the various tests undertaken only histology of a bone biopsy (iliac crest) and the induced hypercalcaemia test (Nordin and Fraser, *Lancet*, 1956, 1, 823; *Abstr. Wild Med.,* 1956, 20, 420) gave invariable proof of the diagnosis. Radiological findings were positive in only eight of the sixteen patients with established osteomalacia, and the calcium:creatinine ratio test was positive in only two patients. The authors suggest that the osteomalacia in their patients was due most probably to a simple deficiency of vitamin D, either from a nutritional deficiency or lack of exposure to sunlight. They also believe that the problem of osteomalacia in the elderly is an extensive one, "sufficient to warrant prophylactic vitamin D therapy in 'high risk' elderly people".

*M. R. Wills*


Cytology in the Diagnosis of Mammary and Extramammary Paget’s Disease. (L’apport des examens cytologiques dans le diagnostic de la maladie de Paget mammaire et extramammaire.) TEMIME et al. (1967). Presse méd., 75, 441.


Tomography in Osteochondritis of the Knee with Sequestra (Services rendus par la tomographie pour le diagnostic de l’ostéochondrite dissecante du genou.) FRANÇON, F. (1967). Brasil-méd., 81, 17. 3 figs, bibl.


Non-Articular Rheumatism


In this paper from the Faculté de Médecine, Montpellier, France, the authors describe 46 cases of scapulo-humeral periarthritis, including seven of the shoulder-hand syndrome, occurring in patients with pulmonary tuberculosis. The patients’ ages ranged from 41 to 68 years, and 29 were men. (In non-tuberculous cases women are more often affected.) The condition was bilateral in fifteen patients.

The determining factors seemed to be the prolonged periods of rest and immobilization of the upper limbs necessitated by the methods of treatment used, which included daily slow infusions of chemotherapeutic agents. Some of the drugs themselves (such as isoniazid and ethionamide) may have played a part, and so may the patients’ own constitutions, for other arthritic manifestations, particular cervical spondylitis, were common.

A. J. Karlish


Pararheumatic (Collagen) Disease


In a combined study from Tulane University and Wayne State University Schools of Medicine, New Orleans and Detroit, intradermal tests (using homologous leucocytes, calf-thymus histone, nucleoproteins, and DNA) and tests for serum antinuclear factors (by the indirect immunofluorescent technique) were carried out on 25 patients with systemic lupus erythematosus (SLE) and six patients with discoid lupus erythematosus (DLE).

In SLE there were signs of delayed sensitivity to homologous leucocytes, nucleoprotein, histone, and DNA in 24, 21, 23, and 12 patients respectively, the reaction beginning in 10-12 hours and reaching a peak in 24-36 hours. Similar tests on 35 controls were negative. All twelve patients with positive reactions to intradermal DNA had active SLE and their sera contained antinuclear factor producing shaggy as well as homogeneous patterns of nuclear fluorescence. Sera from the thirteen SLE patients with negative intradermal tests to DNA showed only homogeneous antinuclear staining and all of these patients were in remission at the time of testing. Cutaneous reactions to the other substances tested (leucocytes, nucleoprotein, and histone) did not correlate with the clinical activity of the disease. These findings suggest that delayed cutaneous sensitivity to DNA correlates with the shaggy pattern of antinuclear fluorescence and with clinical activity of SLE.

Four of the six patients with DLE had a positive reaction to most of the antigens tested and these patients later showed signs of dissemination of the disease but were still LE-cell negative at the time of testing. The other two patients did not develop systemic manifestations and did not react to any of the intradermal tests. Sera obtained from three of the four patients with positive reactions showed homogeneous antinuclear staining in one case.

M. Wilkinson


Systemic Lupus Erythematosus and Multiple Sclerosis in Identical Twins. HOLMES et al. (1967). Arch. intern. med., 119, 302.

ANA Titres in Lupus Erythematosus and Certain Chronic Dermatoses. CARNABUCI et al. (1967). Arch. Derm., 95, 247.


ANNALS OF THE RHEUMATIC DISEASES


Connective Tissue Studies


Synovial fluids from eighteen patients with rheumatoid arthritis, nineteen patients with non-rheumatoid inflammatory joint effusions, and eight patients with non-inflammatory joint conditions were examined for deoxyribonucleic acid particles. Deoxyribonucleic acid particles in extracellular, intracellular, and membrane-adherent locations were consistently seen in synovial effusions from rheumatoid arthritis. Deoxyribonucleic acid particles are best correlated with the presence of rheumatoid factor and long-standing, moderately advanced disease. Deoxyribonucleic acid particles were seen only very infrequently and not in all three characteristic locations in the synovial fluid from three of 27 non-rheumatoid joint conditions.—[Authors’ summary.]


In previous attempts to isolate mycoplasma from rheumatoid synovial membrane, which were largely unsuccessful, the authors, working at the Northern General and City Hospitals, Edinburgh, noted that a number of their cultures were discarded because of “contamination” by diphtheroids. Since such “contamination” was rare in control cultures they decided that a further investigation into the origin of these organisms should be carried out. For this purpose 36 specimens of synovial membrane removed at operation and 48 aspirates of synovial fluid were obtained from patients with “definite” (ARA) rheumatoid arthritis and cultured on liquid and solid media.

Diphtheroids were isolated from nine of the synovial membranes and seven of the synovial fluids. Uninoculated control cultures remained sterile, and no diphtheroids were isolated from cultures of synovial membrane and fluid removed from ten patients with traumatic or degenerative joint disease. The cultural and staining characteristics of the strains isolated are described; further studies of their properties are in progress. The patients from whom diphtheroids were isolated showed no significant difference in their clinical characteristics from the rest of the arthritic group.

It is suggested that the failure of other workers to report these organisms is due either to the tendency to discard such isolates as contaminants or to the use of antibiotics in the media when attempting to isolate mycoplasma or viruses from rheumatoid tissue. The significance of these findings is discussed and it is emphasized that “much remains to be done before it can be assumed that these organisms play an important part in the pathogenesis of rheumatoid arthritis”.

G. W. Csonka


ABSTRACTS


Immunology and Serology


[From the MRC Clinical Endocrinology Research Unit, the Royal Infirmary, and University of Edinburgh.]

Fifty-one patients with adrenocortical insufficiency were subdivided into three groups according to the nature of their adrenal disease: twelve patients with idiopathic, 23 with probable idiopathic, and sixteen with tuberculous adrenal insufficiency. The importance of objective confirmation of a clinical diagnosis of adrenal insufficiency is stressed and the difficulties of classification of many patients with adult onset adrenal insufficiency are discussed. Idiopathic and probable idiopathic adrenal insufficiency had a sex ratio that was predominantly female (2:5:1) with a mean age of onset of 33 years.

Antibodies to adrenal cortex were detected by the methods of immunofluorescence and complement fixation. They were detected in the serum of 80 per cent. (20:25) of the females with idiopathic or probable idiopathic adrenal insufficiency and in only 10 per cent. (1:10) of the males. The titre of the adrenal antibody was low (≤32) as tested either by immunofluorescence or complement fixation. The serum of only one patient with tuberculous adrenal insufficiency reacted with adrenal tissue in the complement fixation test but the immunofluorescence method showed that this serum reacted with the vascular endothelium and not the secretory cells. No correlation was observed between the duration of the clinical illness and the presence, or absence, or titre of the adrenal antibody. Adrenal antibody was not detected in the sera of 51 control subjects matched for age and sex. Four of 69 patients with lymphadenoid goitre, one out of 93 patients with diabetes mellitus, and none of 230 patients with thyrotoxicosis, primary hypothyroidism, or pernicious anaemia had antibody in the serum specific for adrenocortical secretory cells.

There is a clinical and immunological overlap between idiopathic adrenal insufficiency and other diseases associated with autoimmune phenomena—thyroid disease, atrophic gastritis and hypoparathyroidism.

It is concluded that idiopathic adrenal insufficiency belongs to a group of diseases that are characterized clinically by onset predominantly in females, by aggregation in the same group of patients, by familial tendency, by the presence of organ-specific antibodies in the serum and histologically by lymphocytic infiltration and atrophy. While only one tissue of the group may be predominantly affected, the other tissues are frequently the site of subclinical disease. There is no set order in which the different tissues are affected. Serological evidence of adrenalsis is rare in patients with thyroid disease or pernicious anaemia, but thyroiditis and gastritis are common in patients with adrenalsis.

Two autopsies on patients with idiopathic adrenal insufficiency are described. One case had the classical features of adrenal atrophy with gross reduction in size of the glands, islets of secretory epithelial cells and a moderate degree of lymphocytic infiltration. In the other case, the adrenal glands were only slightly less than normal in size, there were few adrenal epithelial cells and a dense lymphocytic infiltration and some fibrosis. The histology resembled that of the thyroid in Hashimoto goitre.

If the term "autoimmune" adrenalsis is to be substituted for idiopathic adrenal insufficiency, it should be on the understanding that while autoimmune mechanisms may be of primary importance in the pathogenesis of adrenal disease this has yet to be proven.—[Authors' summary.]
Antinuclear Factors in Childhood Rheumatic Diseases.  
KORNREICH, H. K., DREXLER, E., and HANSON, V.  

Antinuclear antibodies have been demonstrated in the serum of many adult patients with connective tissue disorders, particularly systemic lupus erythematosus (SLE), but little attention has been paid to the occurrence of these antinuclear factors (ANF) in children with similar diseases. At the University of California School of Medicine and the Children's Hospital of Los Angeles the authors have examined for ANF sera from 229 children with collagen diseases or suspected collagen diseases and 41 healthy controls. The indirect fluorescent antibody technique of Coons was employed, the test serum being used undiluted and at dilutions of 1:8, 1:16, and beyond if necessary. The presence or absence of rheumatoid factor (RhF) was also determined, the latex fixation test of Plotz and Singer being carried out on serial dilutions of the euglobulin fraction from heat-inactivated serum.

Of sixteen children conforming to accepted criteria for SLE, the serum of fifteen (94 per cent.) gave positive results for ANF—in thirteen cases at a titration of 1:16 or more. Only in two (13 per cent.) of the sixteen was RhF present. The one patient negative for ANF had typical clinical signs and symptoms and a positive renal biopsy. Among 85 children with definite juvenile rheumatoid arthritis (ARA criteria) the incidence of RhF was slightly higher (21 per cent.), but that of ANF much lower (22 per cent.) than in the SLE group. Of 34 patients with ulcerative colitis, eight (23 per cent.) were positive for ANF and only one for RhF. Of 94 patients with various other definite or possible connective tissue diseases or syndromes, nine (9.5 per cent.) were positive for ANF and five (5.3 per cent.) for RhF. All the control sera gave negative results in both tests. Correlation between RhF and ANF results was poor, but it appeared that patients with rheumatoid arthritis who were positive for ANF were more likely to be positive for RhF (42 per cent.) than those who were negative for ANF (12 per cent.).

The authors conclude that the ANF distribution, pattern in connective tissue diseases is similar in children to that in adults and that titres greater than 1:100 should arouse suspicion of the diagnosis of SLE. ANF was ten times more common in females than in males with rheumatoid arthritis.  
E. G. L. Bywaters

Anticomplementary Activity of Sera from Patients with Connective Tissue Disease and Normal Subjects.  
CASTANEDO, J. P., and WILLIAMS, R. C., Jr.  

The studies described in this report from the Department of Medicine, the University of Minnesota, were designed to test various physical separatory methods for their ability to distinguish anti-complementary (AC) activity from clear-cut complement fixation in normal sera and in sera from patients with various connective tissue disorders. The methods of separation employed included ultracentrifugation and Sephadex G-200 gel filtration combined with ultracentrifugation. Quantitations of γG, γA, and γM were performed with the Oudin tube technique and specific antisera, and anti-complementary (AC) activity was tested by the method of Casals and Palacios (1941, J. exp. Med., 74, 409).

It was found that predominant AC activity in the sera studied was related to higher molecular weight materials present as aggregates of γG. 7S fractions, in most instances, gave unimpeached complement fixation reactions, with no AC activity. No clear correlation of AC activity with amounts of 11 to 16S intermediate complexes was found and isolated intermediate complexes possessed only trace amounts of AC action.

The problem of AC activity makes the interpretation of complement fixation tests difficult, especially in sera with high γ-globulin content. The results of the studies described would suggest that fractionation by gel filtration and ultracentrifugation might allow separation of the aggregates responsible for most of the AC activity of the whole serum.  
T. M. Chalmers

Rheumatoid Disease, the Waaler-Rose Reaction, and Radial Immunodiffusion.  
(Malattia reumatoide, reazione di Waaler-Rose, e immunodiffusione radiale.)  
SCHIAVETTI, J., TERZANI, G., and NATALIZI, G., and FIORE, L.  

The 6S Component of Rheumatoid Factor as a Source of Positive Results in the Sheep Cell Test.  
(Estudios sobre el fragmento 6S del factor reumatoide dando lugar a un test positivo en celulas de carnero.)  
SVARTZ, N.  
(1966). Bol. mex. Reum., 6, 5. 6 refs, 5 figs.

Some Biological Activities associated with the 10S Form of Human γ-Globulin.  
STANWORTH and HENNEY  
(1967). Immunology, 12, 267.

Heavy Chain Subclasses of Human γ-Globulin.  
Serum Distribution and Cellular Localization.  
BERNIER et al.  

Serum Grouping of Gamma-globulin and Rheumatoid Factor in Inflammatory Disease with Altered Reactivity.  
[In Italian.]  
OTTAVIANI, P., MANDELLI, F., LIOTTA, S., and SCANDARIATO, V.  

Interaction of Rheumatoid Factors with Urea-denatured Human γ-Globulin and its Subunits.  
HIBO, S.-I., and OSLER, A. G.  

Immunoelectrophoretic Findings in Rheumatoid Arthritis.  
(Immunelektroforetiske fund ved reumatoide artritis.)  
CLAUSEN, J., RAASCHOU, F., and SANDSEN, A. W. S.  

Allotypy of Serum Immunoglobulins in Systemic and Chronic Lupus Erythematosus.  
STUDECK, J., HERZOG, P., and BIELICKY, T.  


Biochemical Studies


The iron metabolism of eleven patients with systemic lupus erythematosus and eleven patients with rheumatoid arthritis was studied. Radioactive iron (59Fe) was used, and was supplemented by serum iron determinations, reticulocyte counts, and bone marrow biopsy. Iron metabolism was found to be increased in all the patients. Utilization of iron was decreased in seven of the patients with systemic lupus erythematosus and seven of the patients with rheumatoid arthritis; in all these cases there was evidence of an increase in iron storage by the liver and spleen. From these results and a review of the literature, the authors conclude that the anaemia in these conditions has three causes: depression of the bone marrow, shortening of the erythrocyte survival time, and a moderate degree of iron deficiency. G. W. Csonka


Adrenocortical Function in Patients with Rheumatism. [In Russian.] NEMCHINOVI, E. N (1967) *Vop Revm.*, No. 1, p. 44. 20 refs.


Therapy


The authors report from the Guy's-New Cross Rehabilitation Unit, London, a trial of the effect on morning stiffness of a high loading dose of salicylates at night in patients with rheumatoid arthritis who were specially troubled by this symptom. The “trial” group consisted of 27 inpatients (nineteen women and eight men) who had suffered from the disease for periods ranging from less than 1 year (six patients) to over 10 years (three). These patients were given polyoxo-aluminium acetylsalicylate (aloxiprin) 1-2 g. three times during the day and 2-4 g. at 10.30 p.m. The “trial” group was compared with a matched control group who were treated similarly but without the night loading dose. The severity and duration of the stiffness were assessed each morning by the patient.

After 1 week of treatment eighteen patients in the “trial” group showed an improvement (including two patients in whom there was complete relief of symptoms) compared with twelve in the control group. Four patients experienced side-effects, but none of these required permanent stoppage of treatment.

The authors conclude that the improvement observed was greater than would be expected from a placebo and that a double-blind controlled trial is necessary.

D. E. Sharland


Although joint stiffness plays a prominent part in rheumatic disorders little has been done to measure it precisely. It is a useful parameter in the assessment of progress and the authors of this paper from the General Infirmary, Leeds, and Royal Bath Hospital, Harrogate, Yorkshire, summarize the work that they have done in this field. They have measured grip strength by means of a pneumo-dynamometer and found a diurnal variation (which was minimal in the early hours of the morning) in both normal and rheumatoid subjects; a similar pattern of variation was found when they measured the strength of back muscles. This diurnal variation was closely paralleled by variations in body temperature and by 17-ketosteroid excretion in the urine. Induced sleep or immobilization of an arm led to a reduction of grip strength similar to that seen after overnight sleep, but strength returned to normal more quickly. They first measured joint stiffness by recording the number of knots that the subject could tie in 2 minutes, and again found a similar pattern of variation. Next, they measured physical stiffness with the arthrometer described by Wright and Johns (Ann. rhem. Dis., 1961, 19, 26) and found that stiffness increased with age and was greater in men. There was a definite relationship to temperature, stiffness being decreased by warming the joint. Hereditary disorders of connective tissue, such as Ehlers-Danlos syndrome, showed a decreased stiffness and disorders such as systemic sclerosis an increased stiffness. Corticosteroids, given to patients with rheumatoid arthritis, decreased joint stiffness. The authors note that the ability to tie knots correlated more closely with changes in physical stiffness than with alterations in grip strength. They suggest that morning stiffness, which is partly subjective, may be a compound of the actual joint stiffness and of muscle power.

B. E. W. Mace


[From Devonshire Royal Hospital, Buxton] a double-blind crossover trial of soluble aspirin and a sustained-release aspirin in hospital inpatients with rheumatoid arthritis is reported. The soluble aspirin was given as 10 g. four times a day, and the sustained-release aspirin as 20 g. twice a day. The method of analysis used dissociates drug effects from some other factors which lead to improvement in hospitalized patients. 29 patients completed the trial. Comparison of the two drugs showed insignificant differences in all measured parameters (pain, stiffness, grip, proximal interphalangeal joint circumference, blood tests (ESR, haemoglobin, leucocyte count, blood salicylate level), and side-effects. However, there was a statistically significant patients' preference for the sustained-release aspirin: seventeen subjects preferred the sustained-release aspirin, eight preferred the soluble aspirin, and four expressed no preference.

It appears that the sustained-release aspirin given twice a day is at least as effective in controlling symptoms in rheumatoid arthritis as soluble aspirin given more frequently to the same total dose of aspirin.—[Authors' summary.]
**ABSTRACTS**


This trial, undertaken in the Royal Infirmary, Cardiff, was designed to test the analgesic and anti-inflammatory effects of indomethacin on rheumatoid arthritis over a short period and in relatively low dosage and to note the incidence of side-effects. Patients with active inflammation of six or more proximal interphalangeal joints of the fingers were chosen for the trial because of the ease with which measurement of swelling and tenderness can be made in these joints. There were thirty such patients (eighteen women and twelve men aged 28–72 years) all with classic or definite rheumatoid arthritis according to ARA criteria.

During the first week placebo capsules were administered to all patients, with the intention of diminishing placebo response by the time of entry into the trial itself. After this week a double-blind crossover technique was used over two 4-week periods, separated by a week during which all patients received placebo capsules. One group of fifteen patients received indomethacin for the first 4 weeks followed by placebo for 4 weeks and the other received placebo followed by the drug. The dosage of indomethacin was 50 mg./day the first week, increased by increments of 25 mg: to a maximum of 125 mg./day. Weekly assessments were carried out, the following criteria being used:

1. Hand articular index,
2. Pool of finger swelling,
3. Systemic index,
4. Patient’s opinion.

The hand articular index was based upon the presence or absence of tenderness of the proximal interphalangeal and metacarpophalangeal joints, the result being expressed as the number of joints with tenderness. The degree of swelling of the proximal interphalangeal joints was recorded with jeweller’s ring gauges. The systemic index was based on:

1. Number of analgesic tablets taken each day,
2. Duration of morning stiffness,
3. Onset of fatigue,
4. Strength of hand grip,
5. ESR (Westergren).

Each week the patients were asked to express their opinion of their symptoms over the preceding week as either much better, better, worse, or much worse. No difference of statistical significance was found between the effects of indomethacin and placebo on the hand articular index, pool of finger swelling, systemic index, or patient’s opinion. There was some evidence that indomethacin caused an increased ESR and delay in the onset of fatigue, though the changes did not reach the level of formal statistical validity. The commonest side-effects were headache and gastro-intestinal upset. Although the incidence and type of reaction were the same for both indomethacin and placebo, the frequency was higher with indomethacin: “Side-effects occurred in eighteen (60 per cent.) of the thirty patients while taking indomethacin and seventeen (56.7 per cent.) while taking placebo. In nine (30 per cent.) patients side-effects were reported with both placebo and indomethacin, in ten (33.3 per cent.) when taking placebo only, and in eleven (36.6 per cent.) with indomethacin alone.” The authors consider that suggestion plays a part in producing side-effects and that the true incidence of these effects attributable to the drug must be much less than that recorded in this and other papers.

C. E. Quin


The author points out the fallibility of x-ray evidence when judging the clinical and functional state of an osteo-arthritis or rheumatoid arthritic hip joint. He notes, moreover, that the region where pain is most frequently referred on movement of the affected joint is usually the inguinal region or the outer side of the thigh—situations which correspond with the distribution of the sensory branches of the 12th dorsal root, the ilio-inguinal nerve and the lateral cutaneous branches of the thigh. He considers that neuritis of these nerve-endings is a likely cause of the disability, and not a primary localized lesion of the joint itself. The treatment he advocates is the injection of an aqueous suspension of methylprednisolone acetate (Depomédrone) with procaine into the area of the nerve implicated, adjacent to the lumbar plexus. He states that if this is sited correctly almost immediate relief will be produced and the mobility of the joint increased. He feels that organic joint damage represents only the end stages of an earlier systemic disorder of which the neuritis is the active evidence. A number of cases successfully treated are described. It appeared that the beneficial effects may last for considerable periods. He suggests that operative treatment would become less frequent if this method of relief were adopted.

W. S. C. Copeman

**Indications for the Walking-stick and for Medical Correction of Apparent Shortening in Hip Disease.** (Indications de la canne et de la correction médicale du raccourcissement apparent dans les coxopathies.) FRANÇON, M. J. (1966). *Rhumatologie*, 18, 255. 2 refs.

In this paper from the Rheumatism Research Centre, Aix-les-Bains, the author discusses the proper use of the walking-stick in cases of arthritis of the hip. In illustration of the importance of the subject he reports that a survey of the records of 210 patients with hip disease showed that 109 did not use a stick, while 91 used one stick and ten used two.

The stick is used both to widen the support and also to take some of the weight off the affected hip; it will usually be of value in cases of arthritis due to rheumatoid disease, of aseptic necrosis of the femoral head, and of osteo-arthritis of the hip with superior cartilage loss and a tendency to upward subluxation. It is not usually of value in cases of acetabular protrusion, bilateral, relatively painless osteo-arthritis, or Paget’s disease. In the
more severe cases elbow crutches may be of more value, though more cumbersome. To make the best use of a stick the patient needs some instruction.

In certain cases the help of the stick in walking can be augmented by measures to correct shortening of the affected leg. Accurate determination of shortening of the leg can only be made radiographically. Pelvic tilt can compensate for shortening up to about 2 cm., and theoretically any real shortening (due to tissue destruction) greater than this should be corrected with a surgical boot or other device. When the shortening is apparent and due to flexion-adduction of the hip, however, correction may aggravate the deformity and increase pain. Partial correction, by external or internal raises in the shoe, will often be the best compromise, particularly when a stick us used in conjunction.  

B. E. W. Mace

Effect of Penicillamine on Human Collagen and Its Possible Application to Treatment of Scleroderma.  

In this paper from the National Heart Institute, Bethesda, the authors describe their findings in skin specimens taken by punch biopsy from 34 control patients and nineteen patients with Wilson’s disease, cystinuria, rheumatoid arthritis, or scleroderma, some of whom had been treated with D-penicillamine for 14–60 months. (Penicillamine, like β-aminopropionitrile, decreases the intramolecular cross-linking of collagen and hence also the relative amount of insoluble collagen in the tissues.) The specimens were assayed for water content, total collagen (in μg. hydroxyproline/mg. dry weight), acid-soluble collagen (as a percentage of total collagen), and for the ratio of single to double chains (the α: β ratio) by densitometry after electrophoresis with acrylamide disk gel.

For the six untreated patients with diseases other than scleroderma, the results were within the control ranges. In nearly all the thirteen treated patients the percentages of soluble collagen were markedly raised and the α: β ratios were also increased (that is, intramolecular cross-linking was diminished).

Sclerodermatous skin from eleven untreated patients contained a reduced proportion of soluble collagen (0.8—1.3 per cent. instead of the normal 1.4—3.5 per cent.). Four out of seven specimens from apparently unaffected areas in these patients showed similar changes. There was a tendency for the α: β ratios to be raised. (This finding is discussed briefly.) Three sclerodermatous patients were treated with D-penicillamine: large increases in soluble collagen occurred and the α: β ratios also increased in these cases.

The effects of therapy appeared to be cumulative, being more marked in patients receiving large doses of the drug for long periods. Hydroxyproline excretion in the urine was not affected by treatment. The authors speculate that D-penicillamine may inhibit a specific enzyme required for crosslinking, though other possibilities exist. They conclude that trial of drugs of this type in scleroderma seems therapeutically rational.  

E. G. L. Bywaters


Diagnosis and Treatment of Degenerative Changes in the Spine and Joints. (Diagnose und Therapie degenerativer Veränderungen der Wirbelsäule und der Gelenke.) Dtsch. med. J., 18, 145. 11 figs.


Surgical Treatment of Cervical Spondylotic Myelopathy. SYMON and LAVENDER (1967). Neurology (Minneap.), 17, 117.


Other General Subjects


To determine the extent of involvement of the lymphatic system in rheumatoid diseases the authors of this paper from the University of Helsinki carried out lymphography on twelve patients with rheumatoid arthritis and twelve with ankylosing spondylitis. In the former the injections were made in either hands or feet, depending on the sites most severely affected; in the latter they were made in both feet.

Enlarged lymph nodes and nodes with coarse-grained granulation were demonstrated by lymphography in seven of the twelve patients with ankylosing spondylitis and in ten of the twelve with rheumatoid arthritis. In ankylosing spondylitis the affected nodes were found in relation to the sacro-iliac joints and higher in the retroperitoneal space; in rheumatoid arthritis they lay in the drainage areas of the more severely involved joints. The authors state that the appearance of the affected nodes resembled that of chronic nonspecific inflammation.

E. D. Sever


Three cases are presented with hyperthyroidism associated with hypertrophic osteo-arthritis, pretilial myxoezma, and ocular disturbances characterized by moderate exophtalmos, and in two cases ophthalmoplegia.

The possible pathogenesis of these associations is discussed and the literature on this subject reviewed.

T. J. ffytyche


Illustrations, with brief notes, of the hand in rheumatoid arthritis, gout, thyroid acropachy (finger clubbing), and scleroderma.

J. H. Kelsey


