
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
- Osteoarthritis
- Immunology and Serology
- Spondylitis
- Biochemical Studies
- Gout
- Therapy
- Other Inflammatory Arthritides
- Surgery
- Bone Diseases
- 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


The acute rheumatic diseases of childhood are known to be associated with a rise in the serum γ-globulin level, but the relative parts played by the individual immunoglobulin fractions is unclear, although several studies have been reported. At Zabalon Government Hospital, Jaffa, and Tel Aviv University Medical School, Israel, the authors carried out serial determinations of the serum IgG, IgA, and IgM levels in 24 children aged 6 to 12 years admitted to hospital with acute rheumatism. Four had polyarthritis only, ten carditis only, nine carditis with polyarthritis, and one carditis and chorea. All were treated with salicylates and fifteen also with prednisone (2 mg./kg. body weight daily for about 3 weeks). Blood samples were taken within the first week and at intervals of 7 to 10 days throughout each child's stay in hospital. Immunoglobulin estimations were performed conventionally by the method of Fahey, using commercial standards and antibody-containing diffusion plates. Ten healthy children of the same age range served as controls.

The mean values (for 20 patients) of all three immunoglobulins were significantly increased (P < 0.01) in the acute stage than at 7 to 10 days after the termination of treatment, when the disease was considered to be inactive, but in comparison with the control group the increase in IgM level was not significant (P < 0.1). The mean levels of IgG and IgA rose in parallel during the first 2 weeks of the illness and then fell, again in parallel, to reach the normal (control) range at about the 6th week. The mean IgM level fell during the course of the illness but remained within the control range throughout.

The authors point out that the similarity of timing between the changes in serum IgG and IgA levels is difficult to understand, as the rate of catabolism for IgA is much higher than that for IgG though their rates of synthesis are much the same. Various possible explanations of this apparent discrepancy are discussed, including a change in distribution of IgA between glandular secretions and the blood such as has been postulated in rheumatoid arthritis, and it is suggested that a better understanding of serum IgA changes (which, unlike IgG changes, would not be expected to follow simple bacterial infection) may be helpful in explaining the nature of rheumatic fever.

J. C. Brown


From April, 1944, to January, 1967, 3,289 necropsies on patients with heart disease were performed at the Institute of Cardiology in Mexico City. Rheumatic heart disease was present in 1,797 cases and in 51 of these the pulmonary valve was involved. (The incidence of pulmonary valve lesions in those patients with rheumatic heart disease is much higher than in other reported series.) Available information on the severity of the rheumatic attacks and on the pulmonary lesions and signs of pulmonary hypertension, together with radiological, phonocardiographic, and electrocardiographic findings, were correlated to try and clarify some of the pathogenic factors in pulmonary valve disease.

The ages of the patients ranged from 6 to 67 years; 29 of the 51 had their first attack of rheumatic fever before the age of 18, and twenty had had more than one attack; eight had no history of rheumatic fever. Without exception, the patients with pulmonary valve disease had involvement of all other valves and severe myocardial damage.

It is thought that pulmonary and tricuspid valves are involved in rheumatic heart disease only when there is chronic severe pulmonary hypertension. There were clinical signs of this in every one of these cases, and in several patients with grossly deformed pulmonary valve cusps necropsy revealed atheromatous plaques in the
pulmonary artery, indicating chronic elevation of pulmonary arterial pressure. The pulmonary valve lesion was diagnosed ante mortem in only 8 per cent. of cases. The murmur of organic pulmonary regurgitation could sometimes be distinguished from that of aortic regurgitation and from the Graham Steell murmur by its harsher quality. Radiological findings were not usually helpful.

Rheumatic fever tends to be severe in Mexico City and the incidence of rheumatic heart disease is unusually high. A high incidence of severe chronic pulmonary hypertension might be favoured by the high altitude (7,500 ft, 2,290 m.) of Mexico City. R. S. Winwood


Steffen’s Test carried out on Serum and on the Auricle in Rheumatic Fever (La prova di Steffen eseguita sul siero e sulla auricola, in corso di malattia di Bouillaud). CAPURSO, A., and SFORZA, E. (1968). Reumatismo, 20, 249. 2 figs, 10 refs.


RHEUMATOID ARTHRITIS


An earlier study of the incidence of rheumatoid arthritis (RA) and of rheumatoid factor (RF) in the Blackfeet and Pima Indians showed no evidence of a significant role for genetic factors. The present study, therefore, sought evidence for a participation of environmental factors.

1,100 Blackfeet and 969 Pima Indians, constituting 86 per cent. of all aged 30 years or more, were examined clinically, serologically, and radiographically. Slightly modified American Rheumatism Association criteria were used for the diagnosis of RA, which was regarded as probable if three criteria were met and definite if five were present. The study of spouse pairs showed no difference in incidence of either RA or RF from that expected on the basis of a random distribution. Amongst the sibships, however, there was a significant excess of RF confined to the Pima tribe and especially seen in the larger sibships, i.e. four or more. Since this excess was confined to the cohort 55 to 64 years and was absent from the younger and older age groups it is suggested that some environmental factor operating during the earlier life of this cohort was responsible. L. E. Glyn


From the Medical Clinic of the University of Rome and the Institute of Medical Semeiotics of the University of Messina, the authors report the results of a detailed clinical, electrocardiographic, and radiological investigation of the cardiovascular system in 35 patients aged 15 to 64 years with rheumatoid arthritis (sero-positive in 22 of 24 patients tested).

In only five patients (14 per cent.) were the findings completely normal, the remainder having (in the authors’ opinion) more or less definite evidence of myocardial involvement. The main clinical signs were exaggerated apex beat (present in seven cases), “paraphonic” first sound at the apex (30), systolic murmur (8), gallop rhythm (2), tachycardia (>100/min.) (12), pleural effusion (3), hepatomegaly (12), splenomegaly (14), and dependent oedema (2). In seven patients there was radiological evidence of cardiomegaly and in 21 there were electrocardiographic abnormalities, including S-T depression (3), T wave abnormalities (19), atrial fibrillation (3), and extrasystoles (10).

A. J. Karlish


STILL’S DISEASE


OSTEOARTHRITIS


SPONDYLITIS


Ankylosing spondylitis developing in childhood has been only rarely recognized. In this study from the Department of Pediatrics, University of Washington School of Medicine, seven children developing the disease are presented.

The onset occurred relatively late in childhood (7 to 12 years of age). All were male. Three presented with typical spinal symptoms and the other four with peripheral arthritis. Three of these developed symptoms referable to the sacroiliac joints and lumbar spine within 4 years, but the fourth had minimal back symptoms until the diagnosis was recognized some 22 years later.

Hip symptoms occurred in all the patients, but other peripheral joint disease was transient and non-deforming in all but one. There was marked growth retardation in two children and one suffered myocarditis and inflammatory bowel disease which may have been related to the rheumatic disorder.

This series emphasizes that ankylosing spondylitis should be considered in the differential diagnosis of childhood arthritis.

Malcolm Jayson


Five patients with ankylosing spondylitis subjected to spinal osteotomy in Lund are described.
In this very short account it is pointed out that the operation is a safe and satisfactory procedure and affords great relief to those patients unable to see more than a few yards ahead because of marked kyphosis. Rather surprisingly, two out of the five patients had the osteotomy performed between D11 and 12. The others had the operation at the more common site in the lumber spine. The author has found radiologically apparent pseudarthrosis in all his patients and uses this level as his guide to the level of osteotomy. Unfortunately, however, at operation, the pseudarthrosis usually turned out to be apparent rather than real.

After operation most of the patients were kept in a plaster bed for 3 months or more. After this, they got up in a plaster jacket for about 6 months. In spite of this one vertebra failed to unite and had to be grafted.

This is yet another account of the great value of spinal osteotomy in severe ankylosing spondylitis.

Rodney Sweetnam


GOUT


This is an extensive review of uric acid stone formation. In the U.S.A. stones composed chiefly of uric acid constitute about 10 per cent. of all renal calculi, but world figures range from 5 to 40 per cent., the latter in Israel. Important in pathogenesis are persistent undue acidity of the urine, hyperuricosuria, and diminution of urinary volume, together with unknown factors which lead to the separation of solid-phase uric acid from supersaturated solution in the urine. The finding of deficient urinary ammonium in patients with uric acid lithiasis has not been confirmed and the question remains controversial.

Uric acid lithiasis is classified as:

(a) Idiopathic;

(b) Associated with hyperuricaemia due to metabolic abnormalities (including “primary” gout, Lesch-Nyhan syndrome, and glycogen storage disease) or to myeloproliferative diseases;

(c) Associated with dehydration;

(d) Associated with hyperuricosuria without significant hyperuricaemia.

The use of allopurinol in the management of these patients is reviewed, although this is still regarded by the authors as “supplementary” to other measures, namely adequate hydration, the use of alkalinizing agents, dietary regulation, and control of urinary tract infection.

J. T. SCOTT


A case is reported of a 53-year-old Negress with sickle-cell anaemia, hyperuricaemia, and gout. Of nineteen other patients homozygous for S haemoglobin or heterozygous for haemoglobins S and C, eight were found to have high serum urate levels. Hyperuricaemia has been reported previously in association with sickle cell anaemia, but gout appears to be rare; perhaps partly owing to the usually rather minor nature of the urate elevation and partly to diagnostic confusion with bone pain.

J. T. SCOTT


This is a case report of a 3-year-old child with mental deterioration, self-mutilation, and hyperuricosuria. The patient differed from the classical form of hyperuricosuric encephalopathy of Lesch and Nyhan in that she was female and the level of uric acid in the blood was normal. Cumulative excretion of labelled urinary uric acid after administration of isotopic glycine was greatly enhanced, but specific activity of urinary uric acid was greatest at 120 hours, compared with 12 to 24 hours in the classical form.

J. T. SCOTT


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OTHER INFLAMMATORY ARTHRITIDES


A survey of 441 cases of this syndrome, which have been published. The main symptoms are relapsing hypopyon iritis, aphthous ulcers in the mouth and on the genitals, and thrombophlebitis in the retina and legs. The aetiology of the disease is unknown, a remedy does not yet exist, and blindness is the inevitable outcome. In 11±4 per cent. the central nervous system is also affected, a complication which is lethal in half of the cases.

H. Lytton


A case which improved on treatment by intravenous colloidal gold.

M. A. H. Attiah


From the case records of 101 patients with Reiter's syndrome seen at the Hôpital Cochin, Paris, the authors selected for analysis those of 46 patients who had been followed up regularly. Of these, twenty had no spinal involvement and 26 had developed at some time involvement of the pelvic joints and/or spine. The signs of spinal involvement were both clinical and radiological in eighteen cases, clinical only in five, and radiological only in three. In thirteen of the 26 spinal involvement occurred during the first year of observation. Nineteen patients had sacroiliitis, which was bilateral in fourteen, though frequently asymmetrical. The incidence of pain in the heel was about the same as in ordinary ankylosing spondylitis. Patients with Reiter's syndrome who had spinal involvement also had a greater incidence of other complications of this disease, including iritis. The literature is reviewed.

Allan St. J. Dixon


Very little is known about the prognosis of Reiter's syndrome, some saying that it clears spontaneously with no sequelae and others reporting recurrences or development into a chronic condition. There was an epidemic of dysentery in Finland during the second world war, the peak occurring in 1944. Of a total of 15,000 cases, Reiter's syndrome developed in 350 and they were all treated in one war hospital. A follow-up study was made of 344 of these patients during the period 1963-67 and the results are reported in this paper from the Central Hospital of Etelä-Saimaa in Lappeenranta. Replies to a questionnaire were obtained from 152 patients, and of these 100 (93 men and 7 women, average age 50 years) complied with a request to attend for a medical examination. In addition to the clinical examination the following investigations were carried out: x ray of chest, lumbar spine, and sacroiliac joints in every case and of other joints when indicated; estimation of the ESR, a Waaler-Rose test, electrocardiogram, urine examination, and, in some case examination of prostatic secretion. A note was also made of the patients' working capacity. One hundred unselected male patients of similar age distribution were used as a control group.

It was found that 20 patients with Reiter's syndrome had been free from symptoms since their initial attack. The other patients could be divided into three groups:

1. 32 in whom symptoms and radiological findings were similar to those of rheumatoid spondylitis;
2. 18 with long-standing joint symptoms but no changes pointing to rheumatoid spondylitis;
3. 30 with joint symptoms which had disappeared by 1947 or were slight and temporary.

In Group 1 spinal symptoms were mild and peripheral joint symptoms were mainly in the lower limbs. Seventeen patients in this group had x-ray changes in the sacroiliac joints only and the remainder had sacroiliac joint changes with spinal changes limited to the lower thoracic and lumbar regions. (Two controls had changes similar to those of rheumatoid spondylitis.) The ESR was raised in fourteen patients and the Waaler-Rose test negative in all.

In Group 2 the knees, fingers, or toes were most often affected. Erosive changes were seen in the toes of only two patients. The ESR was increased in four cases and the Waaler-Rose test positive in one case.

Conjunctival irritation occurred periodically in nineteen patients and recurrent iritis in seven patients out of the 100. Only one patient had symptoms of urethritis after 1947; urine studies revealed aseptic pyuria in eight patients. The incidence of prostatitis was no higher in
the Reiter's group than in the control group. 58 patients were fully employable, 39 were able to do only light or part-time work, and three were completely incapacitated.

It is concluded that Reiter's syndrome resulted in permanent disability in about half the patients in this series. Rheumatoid arthritis did not develop as a consequence of the disease in this group.

C. E. Quin


Two cases of Reiter's syndrome treated with methotrexate are reported from the Department of Dermatology, Baylor University College, Houston. Both were cases unresponsive to other measures with a severe recurrent disabling arthritis, an extensive mucocutaneous eruption, and weight loss. The first case, a 54-year-old man weighing 130 lb. who had previously been on prednisone 40 mg. daily, was given methotrexate 25 mg. orally once weekly, and improvement was described as dramatic after the second week. Four weeks after starting treatment he was walking, and the mucocutaneous eruption had cleared by the eighth week. Dosage was gradually reduced after three months and the total duration of treatment was nine months. The second case, a 48-year-old man weighing 107 lb., was started on methotrexate 5 mg. weekly, increasing by 5 mg. each week to a weekly dose of 20 mg. Again dramatic improvement in the patient's skin and joints was claimed by the fifth week. No significant side effects were reported in either case. Follow up after discontinuing methotrexate, without signs of relapse, was 9 and 13 weeks respectively.

E. M. Hamilton


Bone Disease


The authors present a case of Marfan's syndrome in a woman who had died at the age of 35 years after spontaneous rupture of the left renal artery, this having been preceded some days before by scleral rupture following a slight injury. A similar accident had affected the right eye in 1957.

The histology of the case is presented and the problem of the changes in the connective tissue in Marfan's syndrome is discussed. Statistics are given on cases of Marfan's syndrome and its complications from the Ophthalmic Hospital of Lausanne.

M. H. T. Yuille


Many radiological methods have been developed for the assessment of the presence of osteoporosis. Most of these methods are either relatively time-consuming or require a special radiographic technique. In this paper from Stobhill General Hospital, Glasgow, the author reports a study of the value of estimating the width of the clavicular cortex, from routine chest films, in the diagnosis of osteoporosis. The measurement taken was the width of the upper cortex of either clavicle at its mid-point on a standard posteroanterior chest radiograph. The measurements were analysed with regard to age and sex (120 patients aged from 20 to over 60 years) and to other radiological evidence of bone disease—in spine, femur, and hand (26 patients aged 55 to 91 years).

In both men and women there was a significant reduction in clavicular cortical thickness over the age of 60 years. A reduction in clavicular cortical thickness was also correlated with the presence of either osteomalacia or osteoporosis in other bones. As chest radiographs are taken in a high proportion of patients, the author suggests that the measurement of clavicular cortical thickness has potentially a wide application. In his opinion the "main limitation of cortical thickness as an indication of osteoporosis is that, since it is a continuous variable, it is not possible to give a precise level at which normality ends and abnormality begins". In this study a width of 1.5 mm. or less in patients of all ages was taken as indicative of osteoporosis.

M. R. Will


NON-ARTICULAR RHEUMATISM


The authors report a case of bilateral total oculo-auriculo-vertebral dysplasia, and tabulate the different syndromes of the first branchial arch. From a study of the dermatoglyphics in their patient they argue the possible genetic origin of the syndrome. M. H. T. Yuille


The author saw a case of oculo-auriculo-vertebral dysplasia in a girl who was admitted for the removal of a corneal dermoid. There were also remnants of pre-auricular excrences, coloboma of the upper lid, facial microsomy, and malformation of the teeth and vertebrae. The author discusses the embryonic disturbance which produces the malformations. There is no proof of heredity. The chromosomal picture showed no anomaly. H. Lytton


The syndrome results from disturbance of the development of the first and second embryonal il. Multiple varieties may be observed such as cranio-facial dysplasia, microtopy and auricular malformations, pre-auricular fistula, upper lid coloboma, epibulbar dermoids, and vertebral anomalies. The authors observed a patient admitted for the operation of coloboma of the upper lid. The condition seems to be due to an exogenous cause acting in the second month of pregnancy. Hereditary could not be traced and the karyogram showed no chromosomal anomalies. H. Lytton


The report of a single case exhibiting the characteristic features of both these syndromes. R. B. Harcourt


Transient synovitis (TS) of the hip is a definite clinical entity in which there is synovitis only; the final outcome is a normal hip or else slight overgrowth of the femoral head and neck. It may at first be indistinguishable from Legg-Calvé-Perthes (LCP) disease, and the relationship, if any, between the two conditions is uncertain. This paper from the Montreal Children's Hospital, Montreal, Quebce, reports the findings in 108 children with TS and 98 with LCP disease.

LCP disease had the same age distribution as TS but a greater male preponderance. LCP disease was also more often bilateral than TS, and no child with TS had both hips affected simultaneously. Preceding infection or trauma was present in 48.7 per cent of the patients with TS, whereas such events were absent in LCP disease.

Patients with TS were usually treated with rest in bed and traction, and recovery was generally complete in 1 to 2 weeks.

About 1 per cent. of cases of LCP disease were initially indistinguishable clinically and radiographically from TS. There is little radiographical evidence of LCP disease before alteration in bone structure occurs, but even the slightest lateral flattening of the femoral epiphysis is suggestive. Lateral demineralization of the epiphysis and proximal metaphysis adjacent to the epiphyseal plate may be the earliest sign of avascular necrosis of the femoral head.

The authors conclude that a transient synovitis persisting in spite of treatment should be highly suspect. Better methods of assessing the earliest stages of avascularity of the femoral capital epiphysis are needed. E. H. Johnson


CONNECTIVE TISSUE STUDIES


The authors, from the Ste. Justine Hospital, Montreal, developed a simple technique of collecting synovial fluid which originates from the knee joint of the rabbit, by inserting a polythene tube into the synovial sac which surrounds the extensor digitorum longus tendon and which is in communication with the knee joint.

A post-traumatic effusion was produced in both knees by inserting a polythene tube directly into the joint, and the quantity of fluid, the sodium, potassium, chloride, and the protein content were determined over a period of 9 days. Starch gel electrophoresis was also performed. Immediately after trauma there was a great increase in quantity of fluid, with an increase in protein content, but no change in electrophoretic pattern or electrolytes.
There was no significant change in the traumatic effusion after unilateral plaster cast immobilization, denervation of the knee joint, femoral vein ligation, and intra-articular and intramuscular injections of trypsin or streptokinase-streptodornase. After femoral artery ligation there was decrease in the amount of synovial fluid, but no change in the protein or electrolyte content. It was thought that this change was due to decrease in arterial hydrostatic pressure.

Intra-articular injection of prednisolone, in an amount which was thought to correspond to a therapeutic dose in man, produced a significant decrease in the quantity of the traumatic effusion, in both the injected and the non-injected joint, but no change in the protein or electrolyte content. Intramuscular injections of prednisolone had a similar but no greater effect. The authors think that the effect of cortisone may be a mechanical one, but they suggest that further investigations of the proteins in synovial fluid, after the administration of cortisone, are indicated, as their preliminary investigations showed some changes in the starch gel electrophoretic pattern.

B. Fox


At the Centre Médico-Social, Brussels, synovial fluid from normal subjects and patients with rheumatoid arthritis, lupus erythematosus, and gout was added to cultures of lymphocytes from these individuals in various synovial-fluid-lymphocyte combinations, and evidence of immunological stimulation (mitoses and cellular enlargement) was sought. None was found, regardless of the synovial-fluid-lymphocyte combination used or of whether phytohaemagglutinin was added or not. The author suggests that the absence of active fibroblasts from the preparation may have been the reason for the failure of stimulation to occur.

B. E. W. Mace


PARARHEUMATIC (COLLAGEN) DISEASES


The brain is one of the less frequently affected organs in polyarteritis nodosa, being involved in about 20 per cent. of generalized cases. From the Neurological Clinic and Polyclinic of the University of Tübingen, the author reports the case of a 32-year-old woman with a 3-day history of fits, vomiting, impairment of consciousness, and disorientation. A few months previously she had suffered from atypical hepatitis, the nature of which had not been elucidated despite repeated liver biopsy. Papilloedema was present, the cerebrospinal fluid contained albumin in a concentration of 53 mg./100 ml., and a tentative diagnosis of cerebral tumour was made. Bilateral carotid angiography showed no abnormality in the course or form of the main intracranial arteries, but the medium and small cerebral arteries had irregular lumens with multiple fusiform dilatations. The possibility of a tumour was thought to be excluded and the arterial changes, together with the clinical findings, were considered to be compatible with a diagnosis of polyarteritis nodosa, which was confirmed at necropsy 2 weeks later.

In a review of the literature the author found only one other case of polyarteritis nodosa in which cerebral angiography had been performed, the findings being narrowing of the peripheral cerebral arteries with multiple peripheral aneurysms.

F. M. Abeles


Two cases of pulseless disease are described in great detail, and the patient’s general and ophthalmic condition improved with both the use of medical and surgical treatment.

P. J. H. Sellors


From the Mayo Clinic, Rochester, Minnesota, the authors report a clinicopathological study of 28 patients with progressive systemic sclerosis, with emphasis on the pulmonary features. Their findings confirm and amplify earlier studies stressing the universal occurrence of pathological changes in the lungs. The average age of the patients at onset of the disease was 47 years and nineteen of the patients were women. Despite the pathological changes in the lungs dyspnoea was a presenting symptom in only one patient but developed eventually in eighteen. The initial complaint (17 cases) was cutaneous (pain, stiffness, and swelling of the limbs). The commonest physical sign—basal rales—was present in fourteen patients. Chest radiographs were available for all patients: bilateral basal fibrosis was seen in thirteen, cardiomegaly in eleven, and pleural effusion or thickening in seven. The major pathological findings were interstitial fibrosis (in all cases), a lining of cuboidal epithelium in subpleural cysts (26) or alveoli (22), and
pleural thickening (24). Blood vessel changes were common and chiefly of a proliferative nature. Increased pleural vascularity was more common in this than in previous studies, but the degenerative changes in elastic tissue, fibrinoid changes, and alveolar cell carcinoma previously reported were not found.

In their discussion the authors note that the appearance of respiratory symptoms is a late feature of poor prognostic import (64 per cent. of such patients were dead within 9 months), and from their pathological studies support the view that the lung changes are primary rather than secondary to oesophageal sclerosis and aspiration pneumonitis. [It is to be regretted that pulmonary function studies were available for only three patients—vital capacity and total pulmonary capacity were reduced in all three.]

D. J. Lane


The retinopathy of a patient with polyarteritis nodosa was studied by stereoscopic and fluorescein fundus photography. The functional abnormalities of the retinal circulation were clearly demonstrated with changes in the arteries, capillaries, and veins. The author's method of fundus photography is described. N. S. C. Rice


The authors report the exceptional case history of a 76-year-old man in whom total blindness, large gangrene of the scalp, and gangrene of the tongue appeared successively. The diagnosis of Horton's arteritis was confirmed by biopsy of the temporal artery which was obstructed by a gigantocellular infiltrate invading the internal elastic lamina. After prolonged corticotherapy, the patient improved and the necrotic lesions healed but blindness remained permanent. [Authors' Summary]


Gut, 10, 185. 6 figs, bibl.

[From the Departments of Medicine and Diagnostic Radiology, Royal Postgraduate Medical School, London.]

The structure and function of the small bowel have been studied in 21 patients with systemic sclerosis. Twelve had radiological small bowel involvement; six of these had mild steatorrhoea and two impaired vitamin B₁₂ absorption.

The diagnosis of small bowel involvement depends on radiological examination. Dilated loops of duodenum are the striking abnormality and best detected by accurately measuring the diameter of the lumen. In addition thickened folds, "pseudo-diverticula", a wire spring-like appearance, disordered motility, and flocculation were found.

Possible mechanisms for steatorrhoea in this disease are discussed. Small bowel bacterial colonization seemed a likely explanation in one patient and possible in two. There was no correlation between duration, severity, or frequency of other organ involvement by systemic sclerosis and small bowel involvement, with the exception of almost invariable oesophageal abnormality in those patients with small bowel disease. Systemic sclerosis affects the small bowel frequently and often early in the course of the disease; involvement is usually occult. [Authors' summary]


A case report of a 22-year-old white female who presented with muscle weakness. After a brief period on methyl-prednisolone, investigation revealed raised serum aldolase and focal degeneration of muscle fibres without infiltration by inflammatory cells. Treatment included prednisolone and methylprednisolone, but 16 months later the patient died with congestive heart failure. At necropsy there was widespread necrosis and granular and vacuolar degeneration in skeletal muscles and in the myocardium; no inflammatory cells were seen in either. J. Ball


Lack of information about anaemia in scleroderma prompted this study of 164 patients (101 female, 63 male), diagnosed by accepted criteria. Haematological studies showed that 48 patients (31 per cent. of the woman; 25 per cent. of the men) were anaemic: haemoglobin < 12 g per cent. (women) < 40 per cent. (men); Hb < 12 g. (women) < 15 g. (men). Anaemia was commonest in cases with serious systemic involvement, and was especially associated with renal failure, iron deficiency, intestinal malabsorption, or haemolysis. Bone marrow biopsy in eighteen anaemic patients showed depletion of iron stores in nine and marrow aplasia in three. Iron depletion was usually related to chronic blood loss, not intestinal in origin; but in two patients malabsorption of both iron and fat was demonstrated, and these showed marrow aplasia also. Four patients had impaired vitamin B₁₂ absorption, perhaps because of bacterial overgrowth in the small bowel, but no relationship to the anaemia was evident. E. J. Holborow


The total complement level of the serum (C') was measured in 50 per cent. haemolytic units and the absolute values of C'1q, C'3, C'4 and C'5 in mg./ml. by precipitation in radial diffusion plates. The patients studied included six with post-streptococcal acute glomerulonephritis (AGN), eight with active systemic lupus (SLE), and a miscellaneous group of nephritides, including Goodpasture’s syndrome, Henoch-Schönlein’s purpura, and chronic glomerulonephritis. In both AGN and SLE, the total C' level was consistently below normal and returned to normal levels with subsidence of disease activity. The individual components, however, showed a distinct difference in the pattern of their behaviour in the two diseases. Whereas in AGN, C'3 and C'5 levels paralleled that of whole C', C'1q was consistently normal and C'4 soon returned to normal in the two cases in which it was initially depressed. In SLE, C'1q and C'4 were depressed in parallel with whole C', but C'5 was consistently normal. The low level of C'4 in SLE contrasts so sharply with its normal level in AGN that it may well prove to have diagnostic and prognostic value.

The values of whole C' and its components showed no abnormality in any of the miscellaneous group, a finding which may well correlate with the difference in the nature of the antigen which in this group appears to be a normal constituent of the basement membrane. L. E. Glynn


This paper, which describes and discusses the histological findings in the kidney in Sjögren’s syndrome, based on eight needle biopsies and one autopsy, is from the Kaiser Foundation Hospital, Oakland, and the University of California School of Medicine, San Francisco. The discussion considers fourteen other cases reported in the literature: eleven autopsies and three biopsies. The criteria for selection of the eight reported cases have been previously published but are not included here. The authors’ definition of, and criteria for recognizing, interstitial nephritis are not given, although they may be inferred from the lengthy discussion, appearing to rest on excluding the presence of other disorders on clinical grounds. The histological findings were variable and consisted of minimal to moderate interstitial fibrosis, lymphocyte and plasma cell infiltration, and alterations in tubules and glomeruli. Both light microscopy and electron microscopy showed mesangial cell proliferation and thickening of basement membrane of glomeruli. These findings are discussed as exemplifying interstitial nephritis as are the published cases, notwithstanding the diagnoses of their authors. The discussion is discursive and conjectural. Paul D. Byers


The authors, working at the University of Texas in Dallas, studied levels of antibodies to a number of bacterial antigens in the serum of 23 women suffering from SLE, and compared these with antibody levels in eighteen healthy young nurses (not matched to the patients for age and race) and in matched controls with pulmonary tuberculosis. Individual immunoglobulins were determined by sucrose gradient fractionation.

The mean antibody response to an injection of Brucella vaccine was significantly lower in SLE patients compared with the normal group, 1, 4, and 12 weeks after stimulation, and the normal subjects exhibited a peak of antibody concentration in the first week while patients did not attain maximum levels until the fourth week. A booster injection revealed a similar pattern of depressed and delayed antibrucella antibodies in the patients. These differences in immune response were confined to macroglobulin antibodies.

Investigations into naturally acquired antibodies to Escherichia coli and Shigella revealed significantly decreased whole serum, and particularly macroglobulin antibody activity against a proportion of Shigella and E. coli antigens in the SLE patients, compared with the normal subjects and the control group.

The apparent inability of the patients to respond with normal amounts of macroglobulin antibody is discussed in relation to the increased morbidity from acute infections in SLE.

K. Rhodes


ABSTRACTS


Collagen Disease and Cancer. BARDEN, R. P. (1969). Radiology, 92, 972. 6 figs, 8 refs.


BIOCHEMICAL STUDIES


The demonstration of acid mucopolysaccharides in urine has gained greater importance in the framework of so-called mucopolysaccharidoses (gargoylism and similar diseases), and may have a certain importance for ophthalmology. A quantitative test is described based on the metachromasia of toluidine-blue caused by these substances. This is associated with a precipitation reaction.

L. Wittels


[From University College and St Paul’s Chemotherapy Unit, Dublin.]

The patterns of circulating alkaline phosphatase have been studied using gel filtration, differential thermostability, and urea inhibition. Serum alkaline phosphatase in skeletal disease is markedly thermostable, sensitive to 2 molar urea and moves in one 7S peak on gel filtration, whereas serum in hepatic disease is relatively thermostable, more resistant to urea, and moves as two peaks (19S and 7S) on gel filtration. The pattern of control serum enzyme resembles more that of skeletal disease. Both heat and urea inactivation provide simple and rapid method of differentiating the origin of a raised serum alkaline phosphatase level. [Authors’ summary]


This is a single case report from the Metabolic Ward, University College Hospital. The patient, a 5-year-old boy, presented with stunted growth and clinical, biochemical, and radiological evidence of florid rickets with severe myopathy. Dietetic deficiency, renal disease, and steatorrhoea were excluded. A very good therapeutic response followed the use of massive doses of calciferol, whereas the ordinary anti-rachitic dose had no effect.

On the basis of the similarity between the clinical features in this case and that seen in Vitamin D deficiency rickets, it is suggested that it represents true resistance to Vitamin D rather than one of the varieties of so-called “Vitamin D-resistant rickets” due to an isolated renal tubular defect.

R. Grahame


IMMUNOLOGY AND SEROLOGY


Rabbits commonly have a spontaneously occurring serum antibody known as homoreactant, which combines specifically with the Fab fragment of rabbit IgG, though not with intact IgG. In these experiments performed at the University of Pennsylvania School of Medicine, Fab fragment, obtained by mercuripapain digestion of complete rabbit IgG, combined with homoreactant to produce an acute synovitis when it was injected into the knee joint.

Animals which had received thrice-weekly injections for 4½ weeks showed a chronic synovitis characterized by synovial cell hyperplasia, villous hypertrophy, and nodular lymphocytic infiltration. In view of the resemblance of this reaction to human rheumatoid arthritis it is suggested that this system might serve as an experimental model in future studies. A. Garner


THERAPY


The authors, from the Department of Internal Medicine, Yale University School of Medicine, have investigated the anti-inflammatory effect of low doses of colchicine in guinea-pigs receiving intradermal inoculations of a coagulase-positive staphylococcal suspension. The animals were given either colchicine in a dose of 80, 27, or 13 µg./200 g., or saline intraperitoneally, and at intervals of 2 hours after this, two inoculations of the staphylococcal suspension were given to the guinea-pigs. The diameters of erythema induration and necrosis were measured at 24 and 48 hours. Histological examination was also performed on a group of animals killed at varying times after inoculation with bacteria. Colchicine was found to produce increased areas of erythema induration, best seen when the organism was inoculated 6 or 8 hours after the administration of the drug. The polymorphonuclear leucocyte infiltrate in response to the injection was delayed for several hours when colchicine (80 µg./200 g.) was used. No effect was observed on the peripheral blood leucocyte count, and colchicine was not observed to inhibit the growth of staphylococci in vitro.

The authors concluded that the anti-inflammatory effect of colchicine could in part be due to delay in the delivery of leucocytes to the injected region. K. Whaley


This report, from the Royal Melbourne Hospital describes a 39-year-old woman with haemolytic anaemia, positive Coombs, LE-cell, and antinuclear factor tests, found after 5 months treatment with methyldopa. The anaemia remitted after withdrawal of the drug but Coombs test was positive one year later. M. Wilkinson


The authors, at the Wisconsin Medical School, administered 0·3 g. aspirin or lactose control tablets to 32 university students (14 women, 18 men) together with 0·1 normal HCl or 1 normal NaHCO₃ solution to give a range of intragastric pH of 1·2 to 8·9. They photographed the gastric mucosa with a gastrocamera and measured the pH and presence of blood in the gastric juice. Photographs were read without knowledge of their source. Petechial haemorrhages in the mucosa, together with oozing of the blood from the stomach wall, were common when aspirin was swallowed in the presence of a low intragastric pH (less than pH 2·0), but there were no reactions when the intragastric pH was alkaline (pH greater than 8·2). It was the un-ionized acetylsalicylic acid rather than its sodium salt which was injurious to the gastric mucosa. Gross bleeding was observed in four out of 26 subjects given HCl alone. All areas of the stomach might show aspirin bleeding, and particle size did not seem to be important. Erosions and ulcers were not seen. A. St. J. Dixon


While treating a group of children with rheumatoid arthritis the authors were impressed with the prompt reduction in temperature achieved with indomethacin. They therefore decided to compare the antipyretic properties of a suspension of this drug with those of a placebo and of acetaminophen (paracetamol) elixir. At Texas Children's Hospital in Houston 223 children under 14 years of age who had a rectal temperature of over 101° F (> 38·3° C.) were given a single dose of one of the three preparations in a random coded manner according to prescribed dosage schedules. In all cases the fever was associated with diseases commonly seen in paediatric practice, including upper and lower respiratory tract infections, measles, gastroenteritis, skin, and lymph node, and renal tract infections.

Indomethacin suspension (10 mg./5 ml.) was administered in a dosage of 1 mg./kg. body weight (1 to 3 teaspoonsful); the placebo was also given as a suspension in doses of 1 to 3 teaspoonsful and acetaminophen elixir was given in a dosage of 3 mg./lb (6·6 mg./kg.) (½ to 2 teaspoonsful). The temperature was taken rectally before medication and every half-hour for 3 hours afterwards. No other drugs were given during the trial. An analysis of covariance was utilized to allow mean temperature decreases to be adjusted for differences in initial mean temperature.

Of 103 patients with an initial temperature of 103° F. (39·4° C.) or greater, 25 (100 per cent.) of patients in the indomethacin-treated group, 41 (87 per cent.) of those in the acetaminophen group, and nine (29 per cent.) of those in the placebo group had a temperature reduction of at least 2°. Of 47 patients with an initial temperature of 104° F. (40·0° C.) or more, a 4° reduction occurred in nine (82 per cent.) of patients in the indomethacin group, nine (38 per cent.) of those in the acetaminophen group, and none (0 per cent.) of those in the placebo group. The only side-effects with indomethacin were drowsiness in two patients; acetaminophen caused drowsiness in one patient.
It is concluded that in this trial indomethacin proved an effective antipyretic, especially in those patients with very high temperatures. Although indomethacin has been reported to have side-effects, it is urged that further consideration be given to its potential usefulness in children with hyperpyrexia.

Deryck Thorpe


In this study from the Faculty of Medicine, Olomouc, Czechoslovakia, radioactive isotopes were used for the treatment of inflammatory arthritis of the knee (either isolated or part of a generalized arthritis) in 78 patients. Intra-articular injections of a colloidal solution of 158Au (in 67 patients—87 injections) or 90Y (in eleven patients—twelve injections) were given; the dosage, at first in the range 15-56 μCi, was later increased to nearly 5,000 μCi. There were 26 cases of rheumatoid arthritis, seventeen of chronic hydroarthrosis of the knee, 27 of gonococcal arthritis, and eight of miscellaneous conditions. The patients were followed up monthly for a year after injection.

"Good" or "very good" results were recorded after 53 of the injections of 158Au, and after eight of the injections of 90Y. Side-effects were slight—6 per cent. of the patients had transitory swelling or redness of the joint after injection—and the risks of this form of treatment seem very small. The radioactive colloidal particles appear to be absorbed by the synovium and to act locally, the β-particles penetrating to a depth of 1 to 3 mm.; in this way a "partial synovectomy" is effected.

B. E. W. Mace

Oxyphenbutazone (Tanderil) and Blood Dyscrasias.

Seven patients under treatment with Tanderil for various musculo-skeletal disorders developed severe blood dyscrasias, with three deaths.

The occurrence of the dyscrasia does not seem to be related to duration or size of dose; no patient was receiving large doses.

G. Fenwick


In this paper from the Hospital of the Fondation A. de Rothschild, Paris, cyclophosphamide was used to treat patients with a variety of arthritic conditions. The dosage was 100-150 mg. daily for periods of from 1 to 36 months, the total dosage ranging from 4.5 to 108 g. The patients were reviewed at fortnightly intervals initially and at monthly intervals later; progress was measured by clinical, biological, and therapeutic criteria.

Six patients suffering from periodic arthritis without renal involvement showed no improvement; two developed hepatitis. Of 24 patients with inflammatory polyarthritis, six had severe disease not controlled by corticosteroids; five of these showed good remissions after 3 months' treatment, but only one of the five died in hepatic coma. Of fourteen patients with long-standing polyarthritis (nine sero-positive and five sero-negative), seven had good remissions, three less good results, and four no improvement.

Cyclophosphamide had a good effect on one patient with scleroderma but did not help another; both had very high erythrocyte sedimentation rates. Two patients with Behçet's syndrome, both suffering from severe ocular involvement, responded very well to cyclophosphamide.

Apart from the one patient who died, four others in this series developed hepatitis which cleared when cyclophosphamide was withdrawn. Four patients developed localized baldness. Transitory leucopenia was seen in four patients and in two of these cases it was necessary to withdraw cyclophosphamide permanently.

Although the results of treatment were satisfactory, the authors comment on the risks of this regimen even with the rigorous surveillance that was exercised; they emphasize that it should be used only after careful weighing of the possible hazards.

B. E. W. Mace


The authors discuss the pathogenesis and clinical picture and emphasise the importance of ophthalmoscopic examination of patients treated with chloroquine.

H. S. Novich


A brief review of the literature of ocular disorders caused by the administration of steroids.

Alfredo Arruga


Glaucoma is not frequently observed after systemic cortisone treatment. The author reports this complication in two cases, one in an asthmatic patient, the other in a patient with severe thyrotropic exophthalmos. Other medical and dermatological patients, who underwent a long systemic cortisone treatment, were not infrequently found to have an increased ocular tension. Cortisone glaucoma is not always promptly relieved by discontinuing the cortisone.

H. Lytton
Ophthalmodynamometry in Cushing's Syndrome. Pre-
and Post-operative Findings (Ophthalmodynamome-
trische Befunde bei Cushing-Syndrome pra- und post-
Mbl. Augenheilk., 154, 113. 5 figs, 5 refs.
In Cushing's syndrome the surplus production of
adrenaline raises the systemic blood pressure. At the
same time the blood-flow into the skull meets with in-
creased vascular resistance. Thus, the cerebral blood-
flow remains normal or is only insignificantly accentuated.
After removal of the adrenals or of an adrenal adenoma
the systemic blood pressure falls. At the same time the
cerebral vascular resistance becomes lower, so that the
cerebral blood-flow does not undergo a change or is even
lowered if it were increased before the operation.

H. Lyton

Dimethyl Sulphoxide (DMSO) Ointment in the Treatment
of Rheumatoid Arthritis. VUOPALA, U., ISOMAKI, H.,
139.

Clinical Experience with a New Preparation based on
Phenylbutazone (Esperienze cliniche con una nuova
preparazione a base di fenilbutazona). LIGNIERE,
G. C., and GUASTALLA, A. (1968). Reumatismo, 20,
279. 2 figs, 6 refs.

Combination of Small Doses of Phenylbutazone and Dexam-
ethasone with a High Vitamin $B_{12}$ Intake in the Treat-
ment of Rheumatic Diseases (Kombination niedriger
Phenylbutazon- und Dexamethason-Gaben mit einem
hohen Vitamin-B$_{12}$-Angebot zur Therapie rheumatis-
Med. Welt (Stuttg.), 20, 1030. 14 refs.

Intra-articular Injection of Osmic Acid in Rheumatoid
T. norske Lægeforen., 89, 627. 10 refs.

Progress in the Treatment of Rheumatoid Arthritis: Use
of Delayed Action 6-Methyl-prednisolone (Progressi
nella terapia dell'artrite reumatoide: uso del 6-metil-
prednisolone e azione ritardata). MARTINELLI, M.,
med., 56, 789. 4 figs, 7 refs.

Clinical Trial of Preparation G27202-R2273—5 per cent.
Oxyphenbutazone Cream (Sperimentazione clinica del
preparato G27202-R2273—Ossifenbutazone crema
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284. 29 refs.

Experimental Use in Rheumatoid Arthritis of a Protected
Preparation of Acetylsalicylic Acid (Sperimentazione
nell'artrite reumatoide di un preparato di acido aceti-
salicilico protetto). LISI, V., and TROCCOLI, G.
(1968). Reumatismo, 20, 273. 8 refs.

Hydrotherapy in Rheumatoid Arthritis (Técnicas de
hidroterapia en el tratamiento de la artritis reuma-
(Madr.), 51, 217. 7 refs.

Fate and Distribution of intra-articularly injected Osmium
Tetroxide (Os-191). OKA, M., REKONEN, A., and
5 refs.

Action of Inadrox in Rheumatological Practice (L'action
de l'inadrox en pratique rhumatologique). SAMBIN,

Arthritis induced by Antithyroid Medication. FARBMAN,
St. J. Med., 69, 826. 21 refs.

Action of Prolactin on Adrenocortical Function. ING-
2 refs.

Potentiation of the Biologic Activity of ACTH by Human
J. clin. Endocr., 28, 1465. 5 figs, 20 refs.

Studies of Benzoferan (Recherches dans la série des
benzofuranures XXXI. Relation entre structure et effet
uricosurique de certains para-hydroxybenzoyle-
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TOUR, G., ROSE, A., OLIVER, J. L., and BINON, F.

Intravenous Synthetic Lysine-8-vasopressin and Ocytocin.
Effects on Plasma Levels of Growth Hormone, Follicular
Stimulating Hormone, and Insulin (Administration
intraveineuse de lysine-8-vasopressine et d'ocytocine
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Procainamide Induction of a Systemic Lupus Erythema-
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cine (Baltimore), 48, 217. 5 figs, 24 refs.

Variations in the Thromboelastogram in Chronic Rheuma-
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67. 20 figs, 19 refs.

Effect of Adrenocorticotropic and Glucocorticoids on
Insulin Secretion. KITACHI, A. E., BUCHANAN, K. D.,
Endocr., 28, 1479. 8 figs, 22 refs.


SURGERY


Varus Osteotomy in Osteoarthritis of the Hip (with Reference to 52 Cases) (L'ostéotomie de varisation dans la coxarthrose (A propos de 52 observations)). Vignon, G., and Mourguès (1969). Rhumatologie, 21, 39 7 figs.


OTHER GENERAL SUBJECTS


This is an extensive review by a neurosurgeon of congenital and acquired dislocations at the atlanto-axial region. Firstly, a new classification based on anatomical considerations is described. This is followed by sections on anatomy, radiology, and embryology. The section on radiology includes a review of the literature concerned with normal atlanto-odontoid interval at various ages, and with the normal range for the sagittal diameter of the cervical canal at the odontoid level. There is also a useful Table relating the presence of neurological signs of cord compression to the sagittal diameter of the cervical canal at the odontoid level and for the cervical spine below this level. After the embryological section the various forms of congenital abnormality of the odontoid are reviewed together with the literature on the subject.

The author then expands on his classification of atlanto-axial dislocations. Dislocations due to lesions of the odontoid are divided into congenital, traumatic, infections, and neoplastic groups. Those due to incompetence of the transverse atlantal ligament are separated into congenital, traumatic, and hyperaemic groups. The last group is further sub-divided into infections and rheumatoid categories. The important syndrome of "spontaneous hyperaemic dislocation of the atlas", which may occur in children with upper respiratory infections is comprehensively reviewed, but atlanto-axial dislocations in rheumatoid arthritis and ankylosing spondylitis are mentioned only briefly.

Lastly, there is a section on the surgical treatment of atlanto-axial dislocations including a historical review. D. A. Pitkeathly


Diagnosis of meniscal tears of the knee joint is easy when they are severe and the knee locked but smaller lesions are more difficult to identify. Clinical errors of only 4 per cent, are claimed by Smillie, an acknowledged expert, but few could approach this level of clinical ability.

The author has compared the results of his arthrography technique with clinical diagnostic accuracy in meniscal tears in patients subsequently subjected to open operation. Of 452 examinations in 433 patients with no

On the basis of two cases in the same family the authors oppose the theory of lens involvement in the Weil-Marchesani and Marfan syndromes. To them the lens appears to be the origin of all the progressive complications of the Weil-Marchesani syndrome (luxations, myopia, and hypertension) and this influences the occult treatment of this condition.

M. H. T. YuillE


This is a comprehensive review, from the Aurora Hospital, Helsinki, of knee joint arthography, including the author’s own observations of 355 arthrographies of the knee joint in 323 patients (159 boys, 164 girls), mean age 11.3 years. Volumes of contrast medium injected ranged from 1-2 ml. in the age group 0-2 years, to 9-10 ml. for children over 12 years old. Urografin was the main medium used. 162 arthrographies were normal, and provided reference on the range of the width of various portions of the medial and lateral menisci, the size and depth of the infra-patellar fat pad, the occasional communications with the tibiofibular joint, and the variation of these parameters with age and sex. The remaining arthrographies were abnormal. Tears of the menisci were found in 76 cases; these were equally distributed between medial and lateral. Two patients had concurrent tears of both medial and lateral menisci. Other diseases studied included osteochondritis dissecans (30 cases) and “synovitis-arthritis” (24 cases). X-ray diagnosis agreed with operative findings in 83 per cent. of cases. Of the errors, 8-5 per cent. were positive and 8-5 per cent. were negative. Multiple discriminant analysis was performed on nine diagnoses or diagnostic groups, using 38 suitable variables. These were arranged in descending order on the basis of their discriminatory power. The diagnostic groups were well discriminated and the classification of cases into diagnostic groups proved to be 90 to 100 per cent. correct.

A very full and valuable bibliography is attached.

A. St. J. Dixon


Although the pathology of sarcoidosis is well defined, the clinical manifestations are diverse, widespread, and often difficult to recognize. Involvement of the lungs and skin is well known, but arthritis as part of sarcoidosis has not, according to the present author from the Hôpital St Luc, Montreal, received the attention it deserves, being frequently confused with rheumatoid arthritis and acute articular rheumatism; yet in 1877 Hutchison recognized a connection between arthritis and the cutaneous lesions of sarcoidosis, and more recently several sarcoid syndromes in which arthritis is a prominent feature have been described.

The present author gives details of five cases of arthritis in which, after a long time, the true diagnosis turned out to be sarcoidosis. The patients were aged 17 to 52 years, and three were men. The arthritis, which was always the first manifestation of the disease, had lasted for between 4 months and 7 years. It took many forms. It was episodic and usually polyarticular, and there was a predilection for the larger joints. Each attack of arthritis was usually accompanied by some degree of fever. Pain, during the attack was severe in two cases, mild in two and absent in one; an acute monoarticular arthritis could simulate gout. Erythema nodosum was seen in four patients and erythema multiforme with Bazin’s disease in the fifth.

The ESR was usually accelerated, and a high titre of C-reactive protein was noted in all cases. The latex test gave positive results in one case, but the Waaler-Rose test gave negative results in all cases and L.E.-cells were invariably absent. Adenopathy was present in all the patients and biopsy (successful in only one case) showed the typical epithelioid cellular exudate of sarcoid together with Langhan’s giant cells.

The Kveim reaction was positive in every case. Radiological examination of the joints showed no abnormality except for slight osteoporosis in one patient.

All the patients recovered without intensive treatment; corticosteroids were given to only one patient.

The author discusses the pathogenesis of sarcoidosis at length; he sees it as a form of hypersensitivity, possibly related to a mutant form of the tubercle bacillus.

William Hughes


Abstracts

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