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; Chronic Articular Rheumatism (Rheumatoid Arthritis, Osteo-Arthritis, Spondylitis, Miscellaneous); Disk Syndrome; Gout; Pararheumatic (Collagen) Diseases; Non-Articular Rheumatism; General Pathology; ACTH, Cortisone, and other Steroids; 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.

The section "ACTH, Cortisone, and other Steroids" includes abstracts and titles of articles dealing with research into the scope and modus operandi of steroid therapy.

Acute Rheumatism


In this discussion of the incidence of renal involvement in patients with rheumatoid arthritis or rheumatic fever and its complications, the authors present from the University Medical Clinic, Bonn, their own findings and describe some illustrative cases. Out of a total of 78 patients with rheumatic carditis there were eight cases of renal disease, whereas out of 316 with rheumatoid arthritis only eleven showed such a complication. In the former group all stages of glomerulonephritis as well as focal nephritis were seen, whereas in the latter the usual renal lesion was amyloidosis, nephritis being rare. Some facts and theories regarding the part played by streptococcal infection in the pathogenesis of rheumatic fever and glomerulonephritis are presented and also the possible role of auto-antibodies is briefly discussed.

[Although the authors concede the point earlier made by Hartman and Bland (Amr. J. Med., 1951, 10, 47; Abstr. Wld Med., 1951, 10, 105) and by other workers that the coincident occurrence of rheumatic fever and glomerulonephritis is a rare event, they make no attempt to explore the possible theoretical significance of this point in their discussion of aetiology.]

G. Loewi.


The incidence of Group-A beta-haemolytic streptococcal infections in the siblings of rheumatic children was studied at the House of the Good Samaritan, Boston. From September, 1953, to June, 1956, the subjects were seen regularly at 4-week intervals (except during August and September), when a clinical examination was carried out, throat swabs were taken, and blood for determination of the erythrocyte sedimentation rate (E.S.R.) and the antistreptolysin-O titre was withdrawn. After the first 6 months arrangements were made for home visits should acute febrile respiratory attacks occur. When streptococcal infections developed treatment was instituted with buffered potassium penicillin by mouth or benzathene benzylpenicillin by intramuscular injection. The dosage of the former was at first 200,000 units twice a day for 10 days, but it became clear that while this was suppressive it did not eradicate the streptococci; the dose was therefore increased to 400,000 units 3 times a day. Benzathene benzylpenicillin was given in one injection of 600,000 units. Throat swabs were cultured at about 8 to 10, 12 to 14, and 18 to 20 days after the start of treatment. In all, 235 healthy children were observed for a period of 11,839 "person-weeks". During this period 603 symptomatic respiratory illnesses occurred; 14 per cent. of these were associated with beta-haemolytic streptococci, 90 per cent. of the organisms being of Group A. The commonest respiratory illness was coryza which was rarely accompanied by evidence of streptococcal infection. The next most frequent illness was tonsillopharyngitis associated with evidence of Group-A streptococcal infection in 30 per cent. of cases. Half of the cases in which the illness consisted solely of fever were associated with streptococcal infection. Slightly more than 50 per cent. of the infections with Group-A haemolytic streptococci were detected in children who were apparently well. The antistreptolysin-O titre was determined in 76 per cent. of all cases of Group-A haemolytic streptococcal infection, a significant rise in antibody being observed in about 40 per cent. of both symptomatic and asymptomatic cases. This rise occurred in spite of prompt penicillin treatment. Bacteriological relapse occurred in 30 per cent. of patients given the lower dosage of oral penicillin and in 13-8 per cent. of those given the higher dosage. The over-all failure rate in patients receiving benzathene penicillin intramuscularly was 9-1 per cent. No definite case of acute rheumatism occurred, but erythema marginatum was detected in one case and rheumatic heart disease in two, all three cases being in children who had not been treated. In two the streptococcal infection was detected only by the subsequent rise in

Ann. rheum Dis. (1959) 18, 265.
antistreptolysin-O titre and one patient had failed to attend the clinic for 2 months after having had a sore throat. The incidence of haemolytic streptococcal disease was higher in children who still had their tonsils than in those without. The peak periods of haemolytic streptococcal disease were late winter and early spring.

C. Bruce Perry.


A controlled trial of two methods of penicillin administration in the prevention of β-haemolytic streptococcal infections among children convalescing or completely recovered from acute rheumatic fever was carried out at the House of the Good Samaritan, Boston. In-patients received 200,000 units of buffered benzylpenicillin by mouth twice a day, a total of 452 patients being observed for 5,136 “person-weeks”. There were no recurrences of rheumatic fever; there was, however, a “breakthrough” of streptococcal infection in two asymptomatic patients, but the carrier state was promptly eradicated by increasing the dose of penicillin to 1-2 million units daily for 10 days. Out-patients were either treated in the same way with oral penicillin (114 patients for 6,545 person-weeks) or were given monthly intramuscular injections of benzathene benzylpenicillin (47 subjects for 2,498 person-weeks). Among the out-patients receiving oral penicillin there were 26 infections (seven symptomatic, nineteen asymptomatic), an infection rate of four per 1,000 person-weeks compared with a rate of 14-5 in untreated siblings. There were two recurrences of rheumatic fever which were attributed to poor patient co-operation. Among patients given long-acting penicillin intramuscularly there were four infections (one symptomatic and three asymptomatic); three of these occurred on the 28th day after the injection and one on the 34th day in a patient who had failed to report at the usual 4-week interval. The incidence of streptococcal infection in this group was 1-6 per 1,000 person-weeks compared with 13-9 in the siblings. In three of the 452 in-patients a pruritic rash developed, but there were no adverse effects in the out-patients receiving oral penicillin. Reactions to intramuscular injection of benzathene penicillin included varying degrees of pain at the site of the injection (this did not occur with every injection in the same child), occasional local induration with sterile abscess formation, occasional low-grade fever for a day or so following the injection, and hypersensitivity (in two cases).

C. Bruce Perry.


This paper from the National Institute of Cardiology, Mexico City, is a continuation of the authors’ previous report on the post-mortem findings in a series of thirty patients who died of rheumatic fever while under treatment with cortisone.

Severe fibrinous pericarditis was present in thirteen cases (43 per cent.), the incidence thus being about the same as in patients not treated with cortisone. There was an intense fibroblastic reaction in the pericardium with delayed healing and extensive fibrinoid necrosis. The degree of infiltration of the myocardium and epicardium with lymphoid cells was unaffected by cortisone therapy. Rheumatic pneumonitis was present in eleven cases (37 per cent.) compared with a frequency of 11 per cent. in untreated cases. The characteristic findings were of a slowly organizing exudate, necrosis of the alveolar walls, and interstitial and alveolar haemorrhages, resulting in the formation of many Masson bodies and a diffuse pulmonary fibrosis. There was only one case of rheumatic encephalopathy in this series, the frequency of this complication being very much less in untreated cases. Rheumatic nephropathy was present in four cases, the lesions consisting in tubular degeneration, dilatation of the afferent arterioles and thickening of the basement membrane of the capillary glomerular loops. In one case a Schiff-positive fibrinoid substance was present in the capillaries and intralobular arterioles.

M. Lubran.


Chronic Articular Rheumatism (Rheumatoid Arthritis)


By correlating the results of estimations carried out
findings during the years 1952-57 of the agglutinating factor or “rheumatoid factor” in the serum of patients with rheumatoid arthritis and related diseases with the clinical findings the authors have attempted to assess the significance of the agglutinating activity of the serum as a diagnostically specific feature. A single serological technique was employed throughout, this being the standard simple modification of the original sheep-cell agglutination test (S.C.A.T.) of Rose. During the period under review 790 patients were admitted to the rheumatism unit of the Manchester Royal Infirmary. Of the 393 with an initial diagnosis of definite rheumatoid arthritis, 87 per cent. gave a positive S.C.A.T. result on admission, whereas of 41 with probable rheumatoid arthritis, but in whom an alternative diagnosis had been suggested, only 68 per cent. gave a positive result. Among fifteen cases of juvenile rheumatoid arthritis (with onset before the age of 15 years), there were six (40 per cent.) positive results.

Positive results were obtained in 51 per cent. of 78 cases of diffuse collagen diseases (systemic lupus erythematosus, systemic sclerosis, and polyarteritis nodosa), but in only 10 per cent. of 229 cases of non-rheumatoid arthritis and in only four out of 34 cases of bone diseases and other miscellaneous diseases.

Of the 393 patients with clinically definite rheumatoid arthritis, subcutaneous nodules were present in 39 per cent., and 100 per cent. of the 62 males and 92 per cent. of the 91 females with nodules gave a positive S.C.A.T. reaction. The proportions were not so high among those who had had the disease for less than one year on admission, even when nodules were present, but in a number of such cases follow-up showed that the original diagnosis of rheumatoid arthritis was incorrect. With the exclusion of these cases, and on the basis of the highest recorded result instead of that of the first test only, a positive S.C.A.T. result was obtained in 96 per cent. of males and 92 per cent. of females with rheumatoid arthritis. In cases of systemic lupus erythematosus and systemic sclerosis a positive reaction to the S.C.A.T. appeared to be related to the presence of articular or peripheral vascular lesions, or both. In eleven cases of confirmed polyarteritis nodosa without rheumatoid arthritis the result was uniformly negative.

Among 1,392 in-patients and out-patients with various polyarthritic syndromes seen during the same period there were 537 cases of ankylosing spondylitis, of which only 4 per cent. gave positive S.C.A.T. results, whereas of 129 cases of atypical spondylitis, 12 per cent. gave positive results. Some of the latter were later diagnosed as cases of rheumatoid arthritis with major spinal involvement, but a high agglutinating titre was not found to be specially associated with peripheral joint involvement as such, since the majority of 62 cases of psoriasis with an inflammatory erosive polyarthritis gave negative results. The proportion of positive results occurring in cases of other types of arthritis was similarly small. Of 190 patients with uveitis attending the Manchester Royal Eye Hospital, only ten gave a positive S.C.A.T. result, six of whom had concomitant clinical evidence of rheumatoid arthritis.

In the course of epidemiological studies a 1-in-10 random sample of all individuals in the age group 55-64 years in the town of Leigh, Lancashire, was studied. Out of 350 subjects tested, nineteen gave a positive S.C.A.T. reaction, of whom eight were shown to have definite and four possible rheumatoid arthritis. Of 94 blood relatives of the nineteen propositi, 20 per cent. gave positive results compared with 5-7 per cent. of a 1-in-30 sample of the adult population (over 25) of the area. It is suggested that the presence of the rheumatoid factor is an index of some inherited metabolic defect predisposing to rheumatoid arthritis and certain other forms of disease that may not yet be fully defined. Conversely, there are a number of forms of erosive polyarthritis not associated with a positive reaction to the S.C.A.T. which need further characterization and investigation, especially in women.  

Harry Coke.


[The evaluation of the progress of rheumatoid disease is a problem of vital importance to all rheumatologists, and a number of schemes have been devised to that end. Of these schemes, that devised by the author and his co-workers, is perhaps the most worthy of detailed consideration, as being the most complete and "scientific", and this paper should be carefully studied by all rheumatologists.]

A report is presented from Temple University School of Medicine, Philadelphia, on a 3-year study of the value of the systemic and articular indices previously described by the author (Ann. rheum. Dis., 1958, 17, 101). These are designed to provide an objective and accurate method of assessment of the inflammatory manifestations of rheumatoid arthritis and the structural changes which accompany them. They are expressed as numerical values arrived at from assessment of such factors as the degree of stiffness, amount of pain, and muscle weakness, the total joint inflammation, and the erythrocyte sedimentation rate.

The author considers that a strong case can be made for believing that this method of evaluation will present an accurate record of changes in disease activity. He points out that although the systemic and the articular indices are independently based upon different data, they show nevertheless a significant degree of parallelism in their results, and that these accord closely with the general over-all clinical estimate of changes in disease activity. Before these indices can be recommended for general use he suggests that the matter should be further investigated by a committee of independent observers on a multiclinic basis.  

W. S. C. Copeman.


Only two cases of apparent recovery from amyloidosis secondary to rheumatoid arthritis have been reported; in neither case was there a long follow-up or histological
proof of the presence of amyloidosis. In this paper from the Postgraduate Medical School of London and the Canadian Red Cross Memorial Hospital, Taplow, Berks., the clinical progress of two patients with severe generalized rheumatoid arthritis complicated by amyloidosis is described. The first patient, a girl, had had arthritis from the age of 3 years; amyloid disease was diagnosed when she was 8 years old and during the next 7 years the clinical signs of this disease regressed twice in parallel with remissions of rheumatoid arthritis. When the patient was 15 years old the nephrotic syndrome developed, unassociated with increased joint activity, and there was some retention of urea, indicating that amyloid deposits had not been absorbed in the periods of clinical improvement. The second patient, a man, developed rheumatoid arthritis at the age of 28 and amyloid disease was diagnosed a year later. Treatment with high doses of cortisone was followed by a remission in both the rheumatoid activity and the signs of amyloid disease. Three years later both conditions relapsed in spite of maintenance therapy with cortisone in a dosage of 50 mg. daily; the dosage of cortisone was then increased to 200 mg. daily, with improvement in both joint activity and signs of amyloid disease, the improvement being maintained with a dosage of 125 mg. daily. Biopsy examination of the liver and kidney, however, showed that amyloid had not been reabsorbed.

The authors briefly discuss two further patients, both females, with amyloidosis secondary to rheumatoid arthritis who were treated with prednisolone. In both patients the dosage needed to suppress the joint symptoms caused peptic ulceration and the drug had to be withdrawn; no significant changes in the clinical or biochemical state were noted. Triiodothyronine was also given to two patients without apparent improvement in the amyloidosis.

The authors conclude that "there does not seem to be any histologically proved case of recovery from amyloidosis secondary to rheumatoid arthritis". The disappearance of clinical signs does not mean reabsorption of amyloid. Steroid hormones do not appear to influence the disease unfavourably and may have induced remission in two of their cases. K. C. Robinson.


A comparison between the clinical symptoms and free plasma 17-hydroxycorticosteroids (17-OHCS) levels was made in two patients with rheumatoid arthritis during pregnancy and after delivery. The free plasma 17-OHCS was elevated in both cases but, whereas there was the expected clinical improvement in one patient, there was aggravation of symptoms in the other. The conjugated plasma 17-OHCS was low in both cases suggesting an altered 17-OHCS metabolism. It is thought most probable that the main fraction of reacting material in the plasma of the patient with aggravation of symptoms was not hydrocortisone but biologically inert tetrahydrocortisone. G. W. Csonka.


ABSTRACTS


(Reumatoid-Arthritis)


(Spondylitis)


In this paper from the Stokmark District Hospital, Norway, the author reports two cases of ankylosing spondylitis which he considered to be in two stages of amyloidosis.

The first patient, a 41-year-old man, had shown signs of progressive lumbo-sacral spondylitis over a period of 17 years, and had also developed effusions into first one and then both knee joints. Over the last few years there had been intermittent albuminuria, and sternal puncture revealed the presence of plasma cells. Serum electrophoresis revealed a lowered serum albumin (1·7 g./100 ml.) and raised a2 and γ globulin levels. Skin and lymph gland biopsies were normal.

The second patient, a 46-year-old man, had developed ilio-sacral ankylosis, associated with effusions into both knee joints, oedema, and marked albuminuria. Electrophoresis again revealed a lowered serum albumin (0·5 g./100 ml.), a markedly raised a2 globulin (2·1 g./100 ml.), with the γ globulin at the upper limit of normal (1·6 g./100 ml.). Skin biopsy confirmed the presence of amyloid deposits, and a lowered 17-ketosteroid excretion (1·2 mg./24 hrs) suggested early infiltration of the adrenals.

These cases are discussed in the light of Teilmull's two-phase theory, the first being accordingly in the active pyroninophilic phase corresponding to Selye's stage of resistance, whereas the second had reached the negative amyloid, phase corresponding to Selye's stage of exhaustion.

H. F. Reichenfeld.
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(Miscellaneous)


The skin response to ultra-violet light and the effect of corticosteroid therapy in active rheumatoid arthritis were studied in ten patients at the Devonshire Royal Hospital, Buxton. Graded exposures were used in each test, the test being repeated twice before corticosteroid therapy was started and at intervals thereafter. The dosage of corticosteroids employed (up to 30 mg. per day of prednisolone or its equivalent) was sufficient to depress the erythrocyte sedimentation rate and increase the haemoglobin level. A variation in skin response was noted, but there was no consistent trend, and the authors conclude that corticosteroid therapy does not modify the skin reaction to ultra-violet light in patients with rheumatoid arthritis. A. ST. J. DIXON.


Treatment of Tennis Elbow with Special Reference to the Injection of Corticosteroids. (L'epicondillalgie e i suoi trattamenti locali, con particolare riguardo alle iniezioni di steroidi della serie cortisonica.) GARELLI, R. (1959). Reumatismo, 11, 71. 33 refs.


Disk Syndrome


Gout


It was shown by Bornstein and Lawrence (Brit. med. J., 1951, 2, 1541; *Abstr. Wild Med.*, 1952, 11, 250) that lack of insulin need not be the only cause of diabetes. Experimentally diabetes can be produced by the administration of alloxan, a metabolite of uric acid. The author therefore suggests that some cases of diabetes may result from an abnormality in the breakdown of nucleoprotein. If this hypothesis is correct a decrease in carbohydrate tolerance should occur in patients with gout.

At the Harvard School of Public Health, Boston, 82 gouty patients were therefore investigated, 27 non-gouty arthritic patients serving as a control group. There was a distinctly higher proportion of patients with a reduced glucose tolerance among those suffering from gout than in the control group. From this the author concludes that there exists some factor specifically related to gout which is responsible for the observed abnormality in carbohydrate metabolism. R. Schneider.


Pararheumatic (Collagen) Diseases


Pararheumatic nodosa has been recognized as a disease entity for 90 years, but it is still imperfectly known and, in its forms frustes, is very often missed. Consequently its mortality has probably been much exaggerated. An analysis of the records of 1,019 cases from 1886 to 1957 showed that the diagnosis was made during life in only 36 per cent. of cases over the whole period, and even in the last 12 years it was established before death in only 42-6 per cent. Of the 368 patients in whom the disease was diagnosed during life, 180 (48-9 per cent.) were discharged home substantially improved. Of those diagnosed on clinical grounds, 76-4 per cent. died, while among those in whom the diagnosis was made by biopsy the death rate was only 27 per cent., those cases in which diagnosis was based on the histological findings in organs removed at operation occupying an intermediate position with 50 per cent. mortality.

It is therefore possible that with the more frequent recognition of mild forms of the disease the mortality would prove to be still lower, since many of these cases evidently undergo spontaneous recovery. Early recourse to biopsy in cases of a general disorder with symptoms implicating a number of organs or systems would probably reveal the incidence of the disease to be higher and its mortality lower than is generally believed at present.

L. Firman-Edwards.


The clinical and pathological features in 28 consecutive cases of Sjögren’s syndrome, seen at the Bristol Eye Hospital over a period of 9 months, are described. The patients, all females, were aged from 35 to 83 years, the majority being over 50. Ocular symptoms, which had been present for 1 to 18 years, consisted in cession or diminution of secretions from the lacrimal glands. Similar changes were observed in the salivary glands and the submucous glands of the respiratory and upper alimentary tracts. The lacrimal glands showed connective tissue proliferation and fibrosis, with atrophy of the glandular tissue. In the conjunctiva oedema of the epithelial and sub-epithelial layers, with marked thinning of the epithelium in the later stages, and destruction of the elastic tissue were observed. The changes in the cornea were similar. In addition to these classic lesions seventeen patients had rheumatoid arthritis and a further nine had arthralgia. Other associated conditions were chilblains and/or Raynaud’s phenomenon in twelve cases and leucopenia and thrombocytopenia respectively in sixteen and fourteen out of 24 cases. Electrophoresis of the serum proteins revealed a lowered albumin level in fifteen patients and raised α2- and γ-globulin levels in sixteen and seventeen patients respectively. In all cases peripheral blood was examined for the presence of L.E. cells on three occasions at intervals of about 3 weeks, these being found in ten cases. Mikulicz’s disease was present in two cases in the series, in both of which L.E. cells were found. Of two cases of Felty’s syndrome (leucopenia, splenomegaly, and rheumatoid arthritis) one gave a positive reaction to the L.E.-cell test.

In a comparison of the clinical and pathological features of Sjögren’s syndrome with those of systemic lupus erythematosus, the author finds a number of similarities. He states that L.E. cells are not always found in known cases of systemic lupus erythematosus, nor have they been looked for systematically in cases of Sjögren’s syndrome. He suggests that prolonged
follow-up of these cases would give further evidence in favour of his hypothesis.

H. F. Reichenfeld.

**Intravenous Procaine in the Management of Some Cutaneous Manifestations of Collagen Diseases.**

Farrington, J. (1958). *Sith. med. J. (Bgham, Ala.),* 51, 1426. 6 figs, 7 refs.

Procaine has been described as having an anti-histaminic effect, an anti-acetylcholine (nerve blocking) effect, a direct action on cells (especially nerves and endothelial cells), and an adrenaline-potentiating effect. The results obtained with intravenous administration of procaine in balanitis xerotica obliterans and lichen sclerosus et atrophicans were encouraging, and suggested a trial of this drug in morphoea, acroerosion, generalized (systemic) scleroderma, and dermatomyositis. 71 cases of scleroderma of all types and four of dermatomyositis being so treated. All the patients were admitted to hospital and given 0·1 g. Seconal (quininalbarbitone) by mouth 20 minutes before treatment with procaine started. Initially 500 ml. 0·1 per cent. procaine in normal saline or in 5 per cent. glucose solution was given; if no untoward reaction was observed 1,000 ml. was given once a day for the succeeding 6 days at a rate of 45 drops a minute. This course was repeated at intervals of 6 weeks, but if there was no improvement after the third course, treatment was stopped. None of the patients received more than twelve courses or fewer than three.

From the results the author concluded that intravenous infusion of procaine tended to delay progression of certain cutaneous manifestations of some collagen diseases, especially acroerosion with Raynaud’s phenomena and peripheral ulceration.

E. W. Prosser Thomas.

**Pulmonary Manifestations in Collagen Diseases.**


The authors have reviewed the case records and radiographs of 109 patients admitted to the University of Minnesota Hospitals during the 15 years 1942-56 with collagen diseases. There were forty cases of periarteritis nodosa, 37 of disseminated lupus erythematosus, twenty of scleroderma, seven of dermatomyositis, and five of rheumatic pneumonitis. In 75 cases the diagnosis was confirmed by means of necropsy or biopsy. Radiological abnormalities in the lungs, pleura, or heart were demonstrated in about two-thirds of the cases, and details of twelve of these are given to illustrate the principal abnormalities found and those combinations of x-ray features which may be of diagnostic significance.

The association of “interstitial pneumonitis” and pleural effusion is stated to be suggestive of collagenosis, and the addition of non-specific cardiac enlargement and prominent hilar shadows in the absence of peripheral pulmonary congestion makes the diagnosis even more likely. The presence of interstitial fibrosis and emphysema is similarly suggestive when confined to the lower and the middle zones and accompanied by small, cyst-like changes, while the combination of these with non-specific cardiac enlargement, lack of peristalsis and widening of the oesophagus, and subcutaneous calcification is diagnostic of scleroderma. Pleural and pericardial effusions occurring together favour the diagnosis of disseminated lupus erythematosus or rheumatic pneumonitis, and hilar vascular prominence is a frequent finding in periarteritis nodosa.

D. E. Fletcher.


The specificity of the recently described p-toluensulphonlic acid test for systemic lupus erythematosus (*J. Amer. med. Ass.,* 1958, 166, 1424; *Abstr. Wild Med.*, 1958, 24, 214) was studied in 25 patients with this disease at the Wadsworth Hospital, Veterans Administration Center, Los Angeles. A positive reaction to the test was obtained from serum of six of the patients, but the results did not appear to correlate with disease activity. Of 100 tests carried out on serum from 94 patients with rheumatoid arthritis, 32 gave positive results, as did a large proportion of tests on sera from patients with other collagen diseases. A positive reaction was also obtained with serum from seven of 58 patients with non-rheumatic diseases.

It is concluded that the test is not specific for systemic lupus erythematosus. [This is in accord with the published work of others.] M. Wilkinson.


Interaction between a nuclear material, possibly deoxyribonucleic acid (DNA), and the serum of patients suffering from systemic lupus erythematosus (S.L.E.) has now been demonstrated by a variety of techniques. The present study from the Rockefeller Institute, New York, reports its demonstration as a precipitin reaction by means of a double diffusion technique in agar. The reaction was positive in eight out of fourteen cases of active S.L.E., whereas negative results were obtained with serum from six healthy subjects and an unstated number of control subjects with other diseases. Preparations of DNA from different animal and even bacteriophage sources were precipitated equally well.

Quantitative precipitin curves obtained with three of the positive sera were characteristic of an antigen-antibody union, with zones of antibody excess, equivalence, and antigen excess. Complement was observed to be fixed in the reaction. Partial dissociation of the precipitate by deoxyribozuclease yielded a γ globulin which reacted with DNA and with whole nuclei, but did not induce L.E.-cell formation. On the other hand the sera continued to induce L.E.-cell formation even after removal of the DNA precipitate.

The authors consider that the DNA-precipitating factor found in the serum of some patients with S.L.E. is distinct from the L.E.-cell factor and is one of a number of autoantibodies elicited in this disease.

M. Wilkinson.


**General Pathology**


Working at the Columbia University College of Physicians and Surgeons and at the Presbyterian Hospital, New York, the authors have achieved considerable purification of the L.E. cell factor. Gamma globulin from serum of patients with systemic lupus erythematosus was first separated electrophoretically and further purification was by column chromatography using a cationic cellulose exchanger and eluting with 0-15M saline at pH 7. The product induced rosettes but not L.E. cells, and gave a strongly positive DNA-protein coated latex agglutination test. It showed a single electrophoretic peak with the mobility of normal gamma globulin and a sedimentation constant of 7 Svedberg units. Agar diffusion studies suggested a single antigenic component behaving identically with a component of normal gamma globulin but not reacting with purified desoxyribo-nucleic acid. The authors suggest that the L.E. cell factor shares antigenic groupings with normally occurring gamma globulin.

M. Wilkinson


This paper gives a short description of this condition, together with notes on two cases. Crico-arytenoid arthritis is most commonly associated with generalized arthritis, usually of the rheumatoid variety. It may, however, be of traumatic origin or it may sometimes be caused by inflammation spreading from neighbouring
structures. Immobilization may result in ankylosis of the joints. In the acute stage, there may be pain, dysphagia, hoarseness, and dyspnoea. Pressure on the thyroid cartilage produces pain. Examination of the larynx shows redness and swelling in the arytenoid region. In the chronic condition, the arytenoids are immobile and there is laryngeal stridor. In two cases of rheumatoid arthritis with laryngeal symptoms seen by the author, histological examination of the crico-arytenoid joints revealed some loss of articular cartilage and fibrosis involving the joint space. [These details are not adequate for the histological diagnosis of rheumatoid arthritis.]

G. Loewi.


A rapid diagnostic aid in rheumatoid arthritis, the bentonite flocculation test, which is a modification of a serological test for the detection of _Trichinella_ antibodies, is described in this paper from the National Institutes of Health, Bethesda, Maryland. Bentonite is a naturally occurring clay which is suspended in distilled water. The particles are coated with human gamma globulin and methylene blue is added to make them readily visible. The coated bentonite particles are then added to serial saline dilutions of inactivated sera to be tested on slides. The result is considered to be positive when at least 50 per cent. of the bentonite particles are clumped by a serum diluted 32 times or more. While it is considered to be negative when the particles remain freely suspended.

Positive results were obtained in 97 out of 114 verified cases of rheumatoid arthritis. Results were also positive in five out of eleven cases of disseminated lupus erythematosus and five out of ten sclerodermat. Of 58 patients with non-rheumatic arthritis, only three gave a positive reaction. Positive results to the bentonite flocculation test were obtained in 10 per cent. of syphilitic sera as well as biological false-positive sera.

G. W. Csonka.


The bentonite flocculation test (see previous Abstract) was carried out on sera from 48 patients with definite rheumatoid arthritis, positive results being obtained in forty instances. A positive reaction was obtained in four out of twelve cases of probable rheumatoid arthritis, but only in three out of 35 cases of other rheumatic conditions. When the test was performed on sera from 48 patients with various diseases characterized by altered protein metabolism there was a positive reaction in one case only. It is concluded that the bentonite flocculation test is easier and cheaper to perform than other serological tests for rheumatoid arthritis and is a dependable laboratory aid in diagnosis.

G. W. Csonka.


The authors record, in abbreviated form, the results of measurements of the colloid osmotic pressure of rheumatoid synovial fluids before and after intra-articular hydrocortisone administration. This treatment was found to cause a fall in colloid osmotic pressure. Correlation with the size of the effusion was doubtful. There was positive correlation of colloid osmotic pressure with the total protein content of the fluid, and with the erythrocyte sedimentation rate, but not with the synovial fluid concentrations of sodium, potassium, chloride, hyaluronate, or with the intrinsic viscosity. It is concluded that changes in protein concentration resulting in changes in the synovial fluid colloid osmotic pressure are of importance for the formation and disappearance of the effusion.

G. Loewi.


Relative specific activities of material containing rheumatoid factor was determined by measuring inhibition of haemolytic activity of Newcastle Disease virus sensitized by the rheumatoid factor. By this technique relative specific activities of the material at successive stages of purification was determined. The method of purification consisted in dialysing the eagulobulin fraction of rheumatoid plasma with diethyleno-ethyl cellulose a phosphate buffer with a pH 7.9. 93 per cent. of the activity was adsorbed. The active material was transferred to the top of a diethylamino-ethyl cellulose column for elution by stepwise increased salt and decreased pH method. The resulting active fraction was further chromatographed on carboxymethyl cellulose and yielded more than 90 per cent. of a component with a sedimentation coefficient of 18.8. The material had a sensitized sheep cell agglutination titre of 1:5120. Concentration dependence data for the sedimentation coefficient were determined.

G. W. Csonka.


Latex-Fixation Test in Rheumatoid Diseases with Special Regard to Rheumatoid Arthritis. Comparison with the Waaler-Rose Reaction. (Il test al lattice a goccia nelle malattie reumatiche con particolare riguardo all’artrite reumatoide. Confronto con al reazione di Waaler-Rose.) GARELLI, R. (1959). Reumatismo, 11, 82. 8 refs.


ACTH, Cortisone, and Other Steroids


The encouraging initial reports on the use of triamcinolone as a suppressive agent in rheumatoid arthritis have been followed by others suggesting that its therapeutic effect does not differ greatly from that of prednisolone. In this paper from Orpington and Farnborough Hospitals, Kent, the authors report the clinical progress and side-effects observed in 47 patients suffering from rheumatoid arthritis who were maintained on triamcinolone in doses up to 16 mg. daily for periods up to 11 months. The majority were already receiving cortisone or prednisolone for which triamcinolone was substituted because of a diminished clinical response or the appearance of side-effects. The patients were usually seen at fortnightly intervals, when a full subjective and objective assessment, together with a search for side-effects, was made, and the erythrocyte sedimentation rate and serum electrolyte levels estimated, but this was in no way a controlled trial.

In eleven of the 47 cases the drug had to be withdrawn because of rapid deterioration (seven cases) or severe side-effects (four cases). Altogether side-effects were seen in 24 cases, the commonest being facial and body flushing, which occurred in seventeen, the appearance of the face being characteristic and distinct from that seen with other steroids. Severe loss of weight occurred in seven cases and rapid symmetrical muscle wasting in four, in three of which it was predominantly in the legs. Clinical suppression of the symptoms of rheumatoid arthritis was satisfactory, and 36 patients continue to receive triamcinolone in spite of the side-effects in some cases.

It is concluded that there is little to choose between triamcinolone and prednisolone for the treatment of rheumatoid arthritis. The usual side-effects of steroid therapy are certainly not less frequent with triamcinolone and new ones have been seen to develop. The dosage suggested for long-term maintenance therapy is 6 mg. daily.

B. M. Ansell.


Three cases of intestinal perforation and widespread arteritis in rheumatoid arthritis during treatment with cortisone are described. Most of the few cases of intestinal perforation previously described in patients under treatment with cortisone have had intestinal disease. Widespread acute arteritis is rarely found in rheumatoid arthritis, but since the advent of cortisone therapy such cases appear to have increased. It is suggested that cases of rheumatoid arthritis on cortisone have a greater liability than other diseases to develop an acute arteritis.

We consider that the intestinal perforation and arteritis in the present cases are probably separate abnormal reactions to cortisone which are more likely to occur in cases of rheumatoid arthritis than in other diseases.—[Authors' summary.]


Dexamethasone (9α-fluoro-16α-methylprednisolone) is reported to have seven and a half times the anti-inflammatory action of prednisolone. The metabolic effects of dexamethasone were studied in four cases of the nephrotic syndrome and one of acquired haemolytic anaemia seen at the Middlesex Hospital, London. In a dosage of 4 mg. a day, dexamethasone had a sodium diuretic effect, and on the first day of administration urinary excretion of potassium increased. Subsequently, excretion of nitrogen and of potassium increased progressively, and substitution of prednisone in a dosage of 40 mg. daily for dexamethasone did not alter it. Dexamethasone had no effect on the blood sugar level or the urinary excretion of glucose in healthy subjects, but the latter value was increased in a patient with diabetes. The serum calcium level and the urinary excretion of calcium increased with dexamethasone therapy. The effects of the drug in this respect appeared to be greater than those of the older steroids, and it is suggested that
it should not be given in the treatment of hypercalcaemic states. The adrenal suppressive effect of dexamethasone was quite equal to that of the older steroids in the relative doses used. In three out of the five cases of the nephrotic syndrome, there was a significant decrease in the urinary excretion of protein, accompanied in two of the cases by a rise in the plasma protein concentration. In one patient, who was oedematous, a satisfactory diuresis was obtained.

It is concluded that the increased potency of dexamethasone is of no value therapeutically unless undesirable side-effects, such as peptic ulceration, susceptibility to infection, development of osteoporosis, muscle weakness, mental changes, diabetes, and adrenal atrophy, “can be shown to be less likely”. P. A. Nasmyth.

**ABSTRACTS**


Other General Subjects


Under the auspices of the Australian Rheumatism Council, a survey was made of the incidence of rheumatism in Sydney. The survey was based upon interviews with householders in their own homes, and details were obtained from 1,608 males and 1,656 females. No clinical data were directly available to the investigators.

It was found that approximately one in five of the general population had suffered from rheumatic symptoms during the 12 months which preceded the investigation, but in this period only 215 of 642 sufferers had consulted a doctor. The sex incidence was about 17 per cent. for males and 22 per cent. for females. Rheumatic fever and “growing pains” had affected 1 per cent. and 7 per cent. respectively of children aged less than 15 years. Prevalence of both osteo-arthritis and rheumatoid arthritis showed an increase with age. Rheumatic diseases affected about 50 per cent. of invalid pensioners and persons who were permanently unable to work.

The accuracy of the findings depended upon the interviewing technique and interpretation of the answers of the various householders. Sometimes the answers provided insufficient data as to the nature of the disease. For instance, difficulty was encountered in assessing the percentage of cases of ankylosing spondylitis. Probably certain instances occurred in which ankylosing spondylitis and intervertebral-disk lesions were placed in the category of non-articular rheumatism.

On the assumption that the experience in Sydney is typical of Australia as a whole, it is estimated that rheumatic complaints in Australia cause an annual loss to industry of nearly a quarter of a million weeks at a cost in wages of more than two million pounds.

A. Garland.


At the Institute of Rheumatology of the University of Rome, the authors treated a total of 97 patients aged 13


The plasma 17-hydroxycorticosteroid level was determined at intervals during the day (8 a.m. to 6 p.m.) in 56 normal persons and in 101 patients with rheumatoid arthritis, eighteen with ankylosing spondylitis, twelve with osteo-arthritis, fourteen with gout, and eighteen with “psychogenic” rheumatism. A diurnal variation in the level was found in all groups, and only minor differences were noted between them. The level was found to be raised for some hours after an intra-articular injection of hydrocortisone in cases of rheumatoid arthritis. It is concluded that no differences in the production of 17-hydroxycorticosteroids and their utilization by the body as a whole between normal individuals and those with rheumatoid arthritis or the other conditions studied can be detected by the methods of investigation at present available, though the possibility of differences in the metabolism of these hormones by various specific tissues requires further study.

Oswald Savage.


Plasmacorticosteroids and Their Responsiveness to Corticotrophin after Long-Term Therapy with Corticosteroids and Corticotrophin. [In English.] BIERICH, J. R., KERSTEN, I., and MARUETAD, S. (1959). *Acta endocr.* (Kbh.), 31, 40. 5 figs, 11 refs.

to 71 years with rheumatoid arthritis (21), degenerative joint changes (30), or non-articular rheumatism (46), with "osadrin", a preparation consisting of equal parts of 1:4-diphenyl-3:5-dioxypyrazolidine and dimethylaminophenylmethylpyrazolone with the addition of procaine hydrochloride. The average daily dose was 1 ampoule by injection or four to six tablets by mouth for 10 to 40 days. [The dose contained in each ampoule or tablet is not stated.]

In a high proportion of cases a significant anti-rheumatic effect of the treatment was demonstrated locally by diminution of pain, muscular spasm, and exudation, and systemically by disappearance of fever and return to normal of the erythrocyte sedimentation rate. The preparation was well tolerated and there was no local tenderness after injection or gastric upset after oral administration. There was no water retention in spite of increased uric acid elimination.

The authors state that their results confirm those of German workers who have been using osadrin for well over 5 years.

Max Mayer.


Significance of Intestinal Disorders in Diseases of the Rheumatic Type. (Die Bedeutung von Darmstörungen für die Erkrankungen des rheumatischen Formenkreises.) Kuhlmann, F. (1959). Z. Rheumaforsch., 18, 200. 1 fig.


Treatment of Inflammatory Rheumatism at a Rehabilitation Centre. (Essai de traitement des rhumatismes inflammatoires en maison de rééducation.) Codreano and Blanquier (1958). Rhumatologie, 10, 255.


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In the Abstracts Section, p. 170, col. 2, l. 25: For Freiberger, R. H. read Freiberger, R. H., joint author of a paper on "Peptic Ulcers in Rheumatoid Patients receiving Corticosteroid Therapy" (Radiology, 1958, 71, 542).
Abstracts

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