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


Chronic Articular Rheumatism (Rheumatoid Arthritis)


The records of fifty cases of juvenile rheumatoid arthritis treated between 1953 and 1960 at the Royal Alexandra Hospital for Children, Sydney, were reviewed, chiefly from the standpoint of initial symptoms. There were thirty girls, and thirty of the fifty children were under 5 years of age at the onset. The disease tended to be more severe in the younger children. Of the 43 patients who presented with joint symptoms, nine had monarticular arthritis, usually of the knee, and this often led to an initial erroneous diagnosis of tuberculous arthritis [a mistake too often made, either because a tuberculin test is not performed or a negative result is ignored]. Of the remaining seven patients, four presented with undiagnosed fever, one with a rash, one with recurrent lymphadenopathy, and one with recurrent pneumonitis and a rash. Eventually polyarthritis occurred in all fifty cases; rash, lymphadenopathy, and splenomegaly were noted in eighteen, sixteen, and eight patients respectively. There were four cases of pericarditis and two patients had iridocyclitis, one of whom became blind. Prolonged periodic fever occurred in 31 cases, leading to much general deterioration. Anaemia and leucocytosis were common. The response to the Waaler-Rose test was invariably negative.


Causes of Clinical Trial of Role of Dylitis


(Spondylitis)


**Gout**


The development of a rapid, simple technique for the identification of urate crystals in gouty synovial fluid led to the discovery that in certain patients with a non-typical syndrome, crystals of calcium phosphate were consistently present. Joint fluid containing these crystals, when introduced into the synovial cavities of animals and a healthy man, gave rise to an acute synovitis similar to the recurrent attacks experienced by the original patients. This syndrome, which resembles classic gouty arthritis, is, however, not associated with a raised serum urate level, and the authors consider it to be a form of “crystal-induced synovitis” which they refer to as “pseudogout”. The condition is believed to be identical with that described in the literature under the term “chondrocalcinosis”, since in the later stages it appeared that calcification of the articular cartilage might be a characteristic feature.

In the present paper from Hahnemann Medical College and Hospital, Philadelphia, the clinical features in seven cases are described. The predominant joint involved in all the patients (five male and two female over 50 years of age) was the knee, although the wrists and other joints had been involved previously in some of the cases. In five patients who had acute episodes the precipitating factors included trauma, surgery, and mercurial injections. The remaining two patients had had chronic arthritis for a considerable time with occasional exacerbations. Radiological examination revealed abnormal calcification in all cases, but the authors consider that “the identification of calcium phosphate crystals in the synovial fluid is probably a more accurate way to define this disease entity”. 

W. S. C. Copeman.


In this second paper the authors describe the methods employed in determining the composition of the crystalline material obtained from the synovial fluid of the seven patients. Physical and chemical studies of the crystals led to the conclusion that they are a form of calcium pyrophosphate. In the identification the use of x-ray diffraction in obtaining powder pattern photographs proved to be especially helpful, and this method and its application to similar problems are fully discussed.

W. S. C. Copeman.

**Pararheumatic (Collagen) Diseases**


The authors of this paper from the University of Pittsburgh School of Medicine describe four patients who died from progressive systemic sclerosis, of whom three had no scleroderma and one had only minimal skin disease.

The first patient, a 51-year-old man, complained of vomiting, abdominal pain, and diarrhoea of 6 months’ duration and a weight loss of 50 lb. (22.67 kg.). At laparotomy only thickening and dilatation of the jejunum and enlargement of the lymph nodes were found. Post mortem examination showed severe sclerosis of the entire gastro-intestinal tract, but no involvement of the skin.

The second patient, a 69-year-old housewife, had had increasing regurgitation of food over a period of one year. She also had nocturnal dyspnoea and some arthritis. She died from aspiration pneumonia and post mortem examination revealed dilatation of the oesophagus with extensive sclerosis of the lung, myocardium, and entire alimentary canal.

The third patient, a 59-year-old housewife, had dyspnoea on exertion, swelling of the ankles, and signs of hypothyroidism, anaemia, and hypergamaglobulinemia. Pyelonephritis subsequently developed. At necropsy, sclerosis involving the myocardium, pericardium, oesophagus, and synovium was found; there were also changes typical of Sjögren’s syndrome and of Hashimoto’s thyroiditis.

The fourth patient, a 71-year-old female had dyspnoea, orthopnoea, and cough. On either side of the chest there were two patches, 4 x 6 cm. in diameter, which were shiny and thickened with depigmentation. Post mortem examination showed thickening of the lower portion of the oesophagus with fibrosis of the small intestine and sclerosis of the myocardium.

These cases are of special interest, since in most instances progressive systemic sclerosis is diagnosed on the basis of typical skin disease. E. H. Johnson.


Five cases of gangrene as a manifestation of systemic lupus erythematosus are described. The close relation-
ship of this type of vasculitis to endarteritis occurring in the retina ("chloroquine retinopathy") is discussed. A review of the literature has clearly shown that cases similar to "chloroquine retinopathy" were observed in the pre-steroid and pre-antimalarial era in systemic lupus erythematosus; a plea is made for the cessation of the current tendency to ascribe the vascular complications of multisystemic disorders to the therapy used and evidence is adduced that high-dosage steroid therapy might help these cases.

[An important paper, as most reports on "chloroquine retinopathy" do not sufficiently consider the possibility that the condition may be part of the total disease process; discoid lupus erythematosus and rheumatoid arthritis, for which antimalarials are frequently given, are both diseases closely allied to systemic lupus erythematosus.] J. M. Heaton.


General Pathology


Papers that have appeared during recent years showing that the administration of salicylates may cause iron-deficiency anaemia, presumably as the result of blood loss through the gastro-intestinal tract. This report from the Hebrew University, Jerusalem, describes an investigation carried out on eleven subjects to clarify the role of salicylates in the causation of anaemia of this type. The authors tested the possibility that in addition to any effect upon the mucous membranes of the stomach and intestines, salicylates may interfere with the metabolism of ingested iron.

It was found that in every subject given salicylates in a dosage of 3 to 4 g. daily, the serum iron level fell, to rise again when salicylates were withdrawn. The possibility that this might result from interference, by the salicylate or its metabolism, with the determination of the serum iron level was ruled out; nor was it due to the removal by venepuncture of blood for testing. The amount of blood lost through the gastro-intestinal tract was measured in three patients and was found to be only 3 ml. per day throughout salicylate administration. It seemed, therefore, that blood loss was not the cause of the fall in the serum iron concentration. It was also shown that during administration of salicylates the survival time of erythrocytes was diminished; this, the authors consider, suggests that in these cases there may be interference with the metabolism of iron through some mechanism as yet unknown. W. S. C. Copeman.


The author has investigated the sialic acid level in the blood serum of 109 rheumatic children, of whom 56 were in an active phase and 53 in a quiescent phase of the disease. Serum from 24 healthy children was used as control. The serum sialic acid level may be regarded as an index of the total amount of mucoproteins in the blood. The value was determined by the method of Hess: 1 ml. blood serum was mixed with 1 ml. 10 per cent. trichloroacetic acid; the mixture was heated in a water bath at boiling point for 5 minutes, then cooled in iced water for a further 5 minutes and centrifuged; to 0·4 ml. of supernatant liquid was added 5 ml. of a 5 per cent. solution of concentrated hydrochloric acid in glacial acetic acid, and the mixture heated in the water bath for 30 minutes and again cooled to 0° C.; the crimson fluid was then estimated colorimetrically. In each case the erythrocyte sedimentation rate (E.S.R.) and the blood protein level were determined and Waldman's cup test, Welmann's test, and electrocardiography were carried out.

The sialic acid titre in healthy children varies from 0·10 to 0·22 unit. In children in the active phase of rheumatism the level was high—0·221 to 0·4 unit; while in the quiescent phase it was 0·1 to 0·225 unit (average 0·17 unit). The sialic acid level was raised in 84 per cent. of children with clinically active disease, while the E.S.R. was raised in only 77 per cent., and the results of the other tests were positive in only 30 to 33 per cent. The author therefore regards this relatively simple test as more reliable than any other. It is, moreover, specific. In a boy aged 8 admitted to hospital with a diagnosis of acute rheumatism, the serum sialic acid level was only 0·04 unit, and the correct diagnosis proved to be acute osteomyelitis. In another boy aged 12 in the active phase of rheumatism, but without joint symptoms, the E.S.R. was only 25; the serum sialic acid level, however, was 0·36 unit, which corresponded to the severity of the rheumatism as evidenced by acute carditis. L. Firman-Edwards.


ACTH, Cortisone, and Other Steroids

Inhibition of Negative Nitrogen Balance by an Anabolic Agent (Methandrostenolone) during Corticosteroid Therapy (Dexamethasone) in Rheumatoid Arthritis. RUCHELMAN, H., and FORD, R. V. (1962). Metabolism, 11, 524. 4 figs, 9 refs.

A negative nitrogen balance may be observed in many forms of chronic disease and in old age. The excessive catabolism which characterizes rheumatoid arthritis may be aggravated by corticosteroid therapy. Testosterone causes an increase in nitrogen retention, but the use of this drug is limited by undesirable side-effects, notably virilization in women.

At the Veterans Administration Hospital, Houston, Texas, nitrogen balance was studied in two male patients with rheumatoid arthritis during simultaneous administration of dexamethasone and methandienone (methandrostenolone), an analogue of testosterone which is said to have minimal virilizing effects. The study was carried out over three 7-day periods: in the first, dexamethasone was given alone in a dosage of 1-5 mg. daily, in the second this dosage of dexamethasone was combined with 5 mg. daily of methandienone, and in the third it was combined with 10 mg. daily of methandienone. A 7-day control period preceded each trial.

It was found that dexamethasone given alone increased the excretion of sodium, potassium, and calcium compared with control periods. When 5 mg. methandienone was added the catabolic effects of dexamethasone were cancelled, the excretion of sodium, potassium, and calcium returning almost to the control level; there was, however, a slight decrease in excretion of nitrogen and of phosphorus. The combination of 10 mg. methandienone with dexamethasone resulted in a significant retention of nitrogen and phosphorus. It is noted that dexamethasone promoted diuresis with increased excretion of sodium and that methandrosteneolone had no consistent effect on the diuresis of natureuris. No side-effects were observed. The authors conclude that methandienone is an effective anabolic agent in cases of rheumatoid arthritis given corticosteroid therapy.

William Hughes.


From a study of 320 patients observed for periods up to 33 months the authors conclude that methandrostenolone ("dianabol") in a dosage of 2.5 mg. daily, when used in conjunction with general corticosteroid and other forms of treatment, has a useful place in the management of osteoporosis and certain chronic rheumatic syndromes. The general advantages claimed as the result of this addition to normal therapy include increase in appetite, energy, endurance, weight, strength of grip, haemoglobin level, and haematocrit reading. A further advantage is said to be the possibility of reducing the dosage of anti-inflammatory drugs without correspondingly reducing their effect upon the arthritic symptoms. The only side-effects noted were those attributable to the comparatively low androgenic effect of the corticosteroid and these were easily controlled.

W. S. C. Copeman.


In this paper from São Paulo University, Brazil, a study is reported of the effects of corticosteroid therapy in patients undergoing commissurotomy for pure mitral stenosis. There were three groups of patients:

(A) In sixteen adults with rheumatic heart disease judged inactive on the basis of clinical and laboratory tests (including erythrocyte sedimentation rate, C-reactive protein, and seromucoid levels), chosen at random from a total of 76 "inactive" cases, prednisone or prednisolone was given for a period ranging between 22 and 142 days (in the majority about 60 days) before operation. The dosage was 30 mg. daily for the first 7 to 10 days; it was then progressively reduced to 5 mg. and kept at that level for 7 to 10 days before and one week after operation.

(B) The second, or control, group comprised the remaining sixty "inactive" adult cases. They received no corticosteroid therapy but were otherwise similar.

(C) The third group consisted of five patients who on admission to hospital had signs of mild rheumatic activity. They were given corticosteroid therapy for 55 to 150 days before operation, with the result that at the time of operation tests for rheumatic activity were normal in four of the five.

At least three sections were made from each left auricular appendage. All slides were examined by the same pathologist. They were read "blind" and classified —according to the presence, specificity, and intensity of the lesions—into four grades, each of which was divided into two sub-grades:

0) No lesions or fibrous changes only;
(1) Non-specific lesions, consisting of fibrin deposits and lymphocyte or polymorphonuclear infiltration probably related to surgical trauma;
(2) Supposedly specific lesions with mild or advanced inflammation consisting of mononuclear cells in focal areas of fibrinoid tissue without cellular reaction;
(3) Lesions consisting of typical and complete young Aschoff bodies with exudative inflammatory reaction and frequent fragmentation of collagen fibres.

ABSTRACTS

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Follow-up was maintained over a 4- to 5-year period by the same observers and the results were classified as “excellent”, “good”, “poor”, or “bad”.

Lesions of Grade 0 and of Grade 1 were found in eight out of sixteen patients in the treated group and in 21 out of sixty patients in the untreated inactive control group. Typical specific lesions were more frequent in the control group (40 per cent.) than in the treated group (18.8 per cent.), but supposedly specific lesions were more frequent in the treated group (31.3 per cent.) than in the controls (25 per cent.).

All of the five patients with active rheumatic disease treated over prolonged periods with corticosteroid drugs showed rheumatic lesions, three with typical Aschoff bodies.

As the authors point out, the treatment failed in a relatively large number of cases to abolish the inflammatory lesions, and there was no correlation between the duration of treatment and the incidence of lesions. However, there was some decrease in the incidence of inflammatory lesions in the treated group compared with the untreated group, but little difference in the clinical results in the follow-up period. The post-commissurotomy syndrome appeared in both groups with equal frequency (21 per cent.), and both this syndrome and auricular fibrillation seemed to occur more frequently in patients in whom biopsy showed specific or supposedly specific lesions.

E. G. L. Bywaters.


Other General Subjects


During 1958–1960 uveitis was found in 3-4 per cent. of 7,504 patients in hospital at the Ophthalmological Clinic of the Packý University, Olomouc. As this condition is frequently considered rheumatic, the authors analysed it from the aetiological and pathogenic aspects. From a group of 51 patients (January-September, 1961), it was not possible to find the origin of the disease in 25, an infectious or metabolic genesis was found five times, and infectious focus (without an obvious connection with uveitis) was found four times. Concurrently with affections of the locomotor organs, uveitis was found in patients with rheumatic fever (2), progressive polyarthritis (4), Bechterew’s disease (4), arthroses (4), erythema nodosum (1), and the lumbo-ischial syndrome (2). Among rheumatic diseases an aetiological connexion with uveitis can be accepted only in inflammatory rheumatic conditions. An aetio-pathogenic diagnosis of uveitis cannot be made on therapeutic grounds because there is no specific drug for any rheumatic condition. The elucidation of the genesis of uveitis will render its classification more accurate and will facilitate treatment.

M. Klíma.


Fifty syndromes are listed; of the twenty heredo-familial syndromes, fourteen show affections of the bones, or ossification changes causing deformities of the cranial or facial bones.

Also listed are thirty acquired ocular syndromes of which eight are accompanied by arthritis and seven by osteopathies. Sjögren’s syndrome is noted to be associated with chronic polyarthritis in 25 to 60 per cent. of cases.

J. Rammell.