ABSTRACTS

[The abstracts are divided into the following sections: acute rheumatism; articular rheumatism (rheumatoid arthritis, osteo-arthritis, spondylitis, miscellaneous); gout; non-articular rheumatism; general articles. After each subsection of abstracts follows a list of articles that have been noted but not abstracted. Not all sections may be represented in any one issue.]

Acute Rheumatism


A survey was made of the incidence, clinical features, and disposition of rheumatic fever and rheumatic heart disease in Army personnel in the North African and Mediterranean Theatre of Operations from the original landings in November, 1942, to the end of hostilities in May, 1945. Approximately 1,400 patients were admitted to hospital, of whom probably rather more than half had active rheumatic fever, and rather less than half an inactive form, usually with mild rheumatic valvular disease. About half the group with active rheumatic carditis appeared to have developed it on overseas service. Rheumatic fever and rheumatic heart disease accounted for only 3-9% of over 30,000 patients invalided back to the United States from this war zone. It is concluded that measures in force in the American Army to exclude from foreign service those with chronic valvular disease and those especially susceptible to rheumatic fever were highly effective.

E. B. Reeve.


Vascular symptoms—epistaxis, purpura, and erythema—are common in rheumatic fever; in fact, according to the author, the chief manifestations of the disease may be predominantly vascular. He uses the term "capillary fragility" for "minute vessel permeability to red cells". The fragility was measured by the appearance of petechiae within 15 minutes of the application of a blood-pressure cuff with a pressure of 100 mm. mercury. If petechiae appeared within 8 minutes the fragility was noted as markedly increased.

The subjects—all of whom were men or women in the Forces—were divided into three groups: (1) controls—those considered to be well or suffering from diseases in which fragility is expected to be normal; (2) convalescent rheumatic fever patients; (3) convalescents from rheumatic fever, but with spontaneous purpura. Of the 25 patients in the first group, 12 gave positive results within the 15 minutes: the average was 11 minutes, and one reacted in 4 minutes. Of the 27 in the second group, 21 were positive within an average of 10 minutes. The author subdivides these into 11 who had sedimentation rates above 10 mm. per hour, 10 of whom were positive within an average of 9 minutes; and 9 who had sedimentation rates below 10 mm., of whom 6 were positive within 11 minutes on an average; of 7 with no recorded sedimentation rate, 5 were positive in from 4 to 15 minutes. Group 3 comprised 19 patients, and the tourniquet test was positive in 17, the average time being 7 minutes. On some of this group other blood examinations were carried out. Platelet counts in 5 patients ranged from 145,000 to 416,000 per c.mm.; the prothrombin time was normal in all. In 7 the bleeding and clotting times were estimated; the former varied from 3 to 5 minutes, the latter (the capillary method was used) from 1½ to 6 minutes. Six patients with marked fragility were treated with hesperidin (vitamin P), 0.5 g. orally three times a day for 10 to 14 days, but no benefit could be observed. The author concludes that the evidence afforded by the above findings favours the theory that rheumatic fever is a disease of the blood vessels.

H. Harold Scott.


The authors attempted to determine whether the rheumatic child is, as a rule, an allergic individual. Of 100 rheumatic children it was found that 33 gave a history of allergic manifestations and a further 31 a history of allergy in parents or siblings. In a control group of 100 non-rheumatic children, 8 children and 10 families had an allergic history. Whereas only 3% of the population suffers from hay-fever, this condition was found in 21 of the rheumatic children; similarly there was a higher incidence of food-sensitivity, vasomotor rhinitis, and bronchial asthma in the rheumatic children than in the general population.

W. Tegner.

Prolonged sulphonamide therapy in the prophylaxis of recurrences of rheumatism has been extensively used in America and favourably commented upon. Between 1941 and 1946 a group of 55 individuals, all of whom had had prophylactic sulphonamide for 1 to 3 years following some manifestation of rheumatism, were studied for further periods of 1 to 5 years. Thirty-nine had no recurrence, while 16 developed active rheumatic fever. "The higher percentage of recurrences developed in the younger age-groups and in those who, prior to treatment, had had the more severe types of rheumatic episodes." There was a "higher incidence and greater danger of recurrences in those who previously suffered most frequent or severe attacks of rheumatic carditis"

W. G. Wyllie.


Some epidemiological factors related to the control of rheumatic fever—the risk of recurrence decreasing with lapse of time from the original attack and with increasing age, family susceptibility, geographical and seasonal variations—are reviewed. There has been a marked decrease in severity in recent years, as shown by a 38% decrease in mortality since 1938. Transference of the patient to a more favourable climate, tonsillectomy, and salicylate prophylaxis have failed to prevent recurrences. On the other hand prolonged administration of the sulphonamides has given some promising results in spite of its obvious dangers. The author stresses the need for organized medico-social action such as has already been started in one State and a few major cities in the U.S.A. Five aspects of a community rheumatic fever programme are outlined—case finding to determine the magnitude of the problem, a diagnostic service to identify the disease especially in schools, provision of care in hospitals, homes, and schools, education (both professional and lay), and research.

H. F. Turney.


ARTICLES


So far no satisfactory explanation has been given of the oft-repeated observation that, following the oral administration of glucose, patients with rheumatoid arthritis show a slower return of the blood-sugar level to the fasting figure than do normal subjects. This has been considered to be due to faulty intestinal absorption, disturbance of pancreatic function, circulatory abnormalities, and dysfunction.

To evaluate the part played by gastrointestinal dysfunction and/or intestinal circulatory alterations, Soskin's intravenous glucose tolerance test was done on 64 patients with rheumatoid arthritis and on 60 normal subjects. Soskin's method is to inject intravenously 0.3 g. of dextrose per kilo of body weight in a 50% aqueous solution within a period of 3 to 5 minutes. A pre-injection fasting sample and venous blood samples taken 30 to 60 and 120 minutes after injection were assayed by the Somogyi method for the determination of the true blood-sugar level. Of the cases of rheumatoid arthritis, 8 (12.5%) returned to the fasting level within 60 minutes; in 42 (65.6%) a return to the fasting level was between 60 and 120 minutes; and in 14 (21.9%) the blood-sugar levels were higher than the pre-injection figure at the end of 120 minutes. Of the normal cases, 43 (71.7%) returned to the pre-injection level in 60 minutes; in 16 (26.7%) the blood sugar returned to the pre-injection levels in between 60 and 120 minutes. In 1 subject the blood sugar was still elevated at the end of 120 minutes.

In Soskin's report (Clinics, 1943, 1, 1286) the blood-sugar level of all the 30 normal controls returned to the pre-injection figure within 60 minutes after the intravenous administration of the glucose, whereas somewhat more than 25% of the author's normal controls failed to return within 60 minutes. This lack of agreement in no way detracts from the present study, since the intravenous glucose tolerance test was used primarily to evaluate the part played by intestinal dysfunction. Soskin further points out that the important factor is the time interval required for the return of the blood-sugar level to the pre-injection figure rather than the maximum height of the blood-sugar level. In view of the fact that the intravenous glucose tolerance test showed that the blood-sugar level fell more slowly in 87.5% of patients with rheumatoid arthritis than in 71.7% of normal controls, it can be concluded that intestinal dysfunction plays no part in the altered glucose tolerance found in the former.

In order to evaluate the possibility of the
altered glucose tolerance resulting from a difference in the amount of glucose lost in the urine, quantitative urinary glucose determinations were made on the 64 rheumatoid cases and the 60 normal controls. The difference between the 2-hour mean total urinary output of glucose of the rheumatoid patients (0.516) and of the normal controls (0.600) amounted to only 0.084 per 100 ml. of urine—obviously an amount too small to be significant. The possibility of the altered glucose tolerance in rheumatoid patients resulting from a diminution of peripheral glycogen deposits as a result of muscular atrophy was considered. The intravenous glucose tolerance test was done on 19 patients convalescing from severe polyomyelitis, all of whom had marked atrophy of at least three limbs. For a reason which is not apparent, the glucose tolerance curve for the polyomyelitis cases fell below that of both the normal and the rheumatoid groups. It is therefore obvious that the diminution of peripheral glycogen deposits does not explain the alteration in the glucose tolerance found in rheumatoid subjects. With regard to the suggestion that pancreatic insufficiency affords an explanation of the altered glucose tolerance, Soskin has shown that there is a hepatic homeostatic control which supplies glucose to the blood stream when the blood-sugar level drops below a certain point. This equilibrium is affected by certain endocrine glands notably the pancreas, anterior lobe of the hypophysis, the thyroid, and the adrenal cortex. Hence hormonal influences affecting the hepatic homeostatic control of the blood-sugar level could account for the alteration in the glucose tolerance. The available data do not, however, permit evaluation of the role of these extrahepatic factors.

M. B. Ray.


As a result of this work the author concludes that it is unlikely that the sera of patients with rheumatoid arthritis contain a genuine excess of haemolytic streptococcus precipitins. The antigens employed in the precipitin reactions were: (1) extracts made by Lancefield's method from haemolytic streptococci of groups A, B, C, D, E, F, and G, and (2) the C-carbohydrate substance characteristic of group A. The sera were obtained from patients with typical rheumatoid arthritis and from non-arthritic individuals free from recent streptococcal infection.

In the tests with the crude extracts obtained by Lancefield's method each antigen was used in amounts of 0.2 and 0.05 ml. These volumes were made up to 0.4 ml. with physiological saline. The saline control tube contained 0.4 ml. of saline without antigen, and 0.1 ml. of serum was added to each tube. The tubes were incubated in a water-bath at 37° C. for 2 hours, refrigerated overnight, centrifuged at 1,700 r.p.m. for 10 minutes, and examined. Where the C substance was used the antigen dilutions were 2 × 10⁻⁴ and 2 × 10⁻⁵; otherwise the method was the same as for crude extracts, but prolonged observation with special visual aids was substituted for centrifugation.

Sera from 30 cases of arthritis did not precipitate antigens from crude extracts of streptococci of groups B, C, D, E, and F if the saline control was negative. When, however, the control was positive, reactions with these extracts not only tended to be positive but often showed stronger precipitation than the control. In explanation of these findings the author considers it probable that the precipitation of serum of arthritic persons by saline may be enhanced by non-specific adsorption of a heterologous antigen. A high incidence of positive reactions between crude extracts of streptococci of group G and sera was considered of little significance, in view of the frequency of positive reactions between these extracts and sera from patients without arthritis.

While some sera from non-arthritic persons had a greater ability to precipitate an extract of group A streptococci than some sera from arthritic persons, the latter generally had more potency in this respect than the former, even when the saline control tube gave a negative result. However, the author has previously brought forward evidence (*Amer. J. med. Sci.*, 1946, 212, 718) that patients with rheumatoid arthritis have the ability to enhance the action of normally present precipitins for a somatic carbohydrate of the pneumococcus; the occurrence of these precipitins in normal serum is attributable to the frequent presence of the pneumococcus in normal human throats. He considers that, similarly, group A haemolytic streptococcus precipitins present in normal sera and sera from arthritic persons may be enhanced in the latter.

With purified C-substance of group A the discrepancy between the two types of sera was greater than when the crude extract was used, precipitation occurring much less often with normal sera, but positive reactions with sera from arthritic persons were usually accompanied by a positive reaction in the saline control. In this case, where normal precipitins are feeble, the author is of opinion that both factors cited above, enhancement of action of normally present antibodies and non-specific antigen adsorption, may be active.

T. D. M. Martin.


The literature on basophilic stippling of red cells is reviewed at some length. Twenty patients taken at random from a series undergoing chrysotherapy were examined for stippled
cells. Films were collected and stained within a few hours of collection. Leishman's stain was used, but the film was left more blue than is usual. The stippled-cell count, according to the table, varied from 200 to 6,500 per million red cells. It is suggested that a high stippled-cell count indicates a toxic reaction to the drug. [The stippled-cell count seems to have been performed only once on each patient and at a variable time after the institution of gold treatment. No control figures are quoted. It is not possible, therefore, to judge whether the basophilic stippling was due to the disease, to the drug, or to both.] John F. Loult.


Three cases of the Felty syndrome—polymyalgia, splenomegaly, and leucopenia—are described. Granulocytopenia was a marked feature in all, and there was almost complete agranulocytosis during exacerbations of the disease. In two of the cases sepsis was prominent. The author regards granulocytopenia as the essential feature of the syndrome and attributes it to an alteration in splenic function. He suggests that a common undetermined agent is the cause of both the splenic dysfunction and the polymyalgia.

H. F. Turney.


In a case of Still's disease administration of sulphonamides was followed on three separate occasions by purpura, both cutaneous and abdominal. After the third attempt at treatment the purpura recurred on several occasions without any apparent cause. During each exacerbation the joint pains disappeared, returning when the purpura ceased. The condition of the joints continued to improve independently of these attacks. The purpura was accompanied by erythrocytosis and a relative increase in platelets. Ten months after the last purpuric episode the joint condition appeared to be quiescent, residual ankylosis existing in two joints.

J. G. Jamieson.


The procedures of arthroplasty and capsulotomy for the mobilization of metacarpophalangeal joints are described. Arthroplasty is not advised in the case of the thumb or for digits which are anaesthetic, deformed, or lacking flexor tendons. A joint space of about 1 cm. is obtained mainly at the expense of the proximal phalanx. The metacarpal head is left broad and flat laterally and tapered anteposteriorly; a fascial flap is interposed. Capsulotomy (really capsulectomy) is indicated for joints stiff in extension if the surfaces are intact and cannot be mobilized by physical therapy and traction. Frequently it forms part of a major procedure such as nerve suture or tendon transplantation. An incision is made on each side of the joint. The extensor expansion is split lateral to the extensor tendon and the collateral ligament completely removed. If the interphalangeal joints extend when the metacarpal-carpal joint is flexed, adhesion exists in the extensor tendon and must be corrected. The phalanx must glide around the anterior surface of the metacarpal-carpal head and not open like a book; this latter movement is due to an adherent anterior capsule and must be corrected by stripping. Full correction is maintained for 3 weeks, after which removable traction is employed for a month. Sixteen arthroplasties and over 100 capsulotomies have been performed. It is claimed that the procedures are relatively simple and provide useful joints unless there are too many other pathological changes.

[This important article by one of the Bunnell school should be read by all interested in the surgery of the hand. Many details of value are discussed.] Norman Capener.

(Spondylitis)


Statistics of the incidence of spondylitis in service personnel show that 1,084 cases were seen in one two-year period, these comprising 18-1% of admissions of all types of rheumatism and nearly equalling the total number of cases of rheumatoid arthritis. Between 18 and 25% of cases were associated with peripheral rheumatoid arthritis, and the author, whilst recognizing that this is not a universal view, believes the disease to be merely rheumatoid arthritis of the spine. In 42% of 50 cases cerebrospinal fluid investigations revealed a raised protein content ranging from 45 to 105 mg. per 100 ml.; this rise in protein appeared to be related to the severity of the disease. A controlled study of treatment in a further 73 cases confirmed the value of deep x-ray therapy in early cases.

[This article, essentially clinical in nature, has as its aim a desire for earlier diagnosis and treatment of the disease. It would repay study in the original.] D. P. Nicholson.


A correlation of the clinical and roentgenographic features of the disease, its degree, severity, and rate of progress, are of value in arranging appropriate treatment. Radio-
graphic changes are seen usually in the sacroiliac joints. The first changes consist of subchondral bony sclerosis and/or spotty demineralization, most often located in the juxta-articular portion of the ilium, in the caudal third. Later, similar changes appear in the juxta-articular portion of the sacrum. Involvement is usually bilateral, but not always symmetrical. Progression of the disease is associated with demineralization and bony condensation to a varying degree. The sacroiliac joints at first appear blurred and the margins indistinct; the joint space may seem to be widened or narrowed; gradual ankylosis occurs and the subchondral sclerosis fades. Less frequent are changes in the lumbar, thoracic, and cervical spine, where calcification of the ligaments shows first at the thoracolumbar junction and progresses to the typical bamboo spine. X-ray of the apophyseal joints is technically difficult and of little value.

A correlation of clinical and radiographic findings was undertaken in 50 soldiers. The severity was gauged by the rapidity of progression of the disease, the amount of constitutional reaction, the degree of disability, the erythrocyte sedimentation rate, and the degree of anaemia; 27 cases were classified as mild, 20 as moderate, and 3 as severe. The average duration of symptoms was 4-4 years. Clinically there were signs of involvement of the sacro-iliac joints alone in 9; of sacro-iliac and lumbar spine in 21; of sacro-iliac and thoracic spine in 2; of sacro-iliac, lumbar, and thoracic spine in 3; of sacro-iliac, lumbar, and cervical spine in 1; and of all spinal segments in 4. All cases were x-rayed and the findings correlated. In general the severity of the disease was reflected in the changes seen in the sacro-iliac joints. The time interval before ankylosis of these joints occurred was extremely variable. Calcification or ossification of the paravertebral ligaments was a relatively late manifestation. Nine of the 50 cases showed changes in the apophyseal joints, but again this was not an early feature. Clinically, signs of involvement of sections of the spine preceded manifest radiographic changes. Two-thirds of the cases studied were more extensive clinically than radiologically. In deep x-ray therapy it is important to irradiate those areas which are judged to be involved clinically. Secondary changes in the muscles and ligaments are an important cause of pain and disability, as in rheumatoid arthritis, and this explains the discrepancy between clinical and radiological findings.

The incidence of peripheral joints involvement is given as 25 to 30%. It is not stated whether this is a clinical or radiological finding, but it does not agree with the figure of 18 to 25% given in a comparable article (see above abstract). Reliable statistics on this point would be of interest. D. P. Nicholson.


An unusual case clinically resembling a case of rheumatoid arthritis is described; it differs from other recorded cases of lipidosis involving bones, joints, and muscles. A Gentle of 20 developed symmetrical pain, swelling, and fixation of fingers and wrists. Larger joints were affected later. Subcutaneous nodules appeared on scalp and face, and around joints and on the back; all the larger ones were symmetrical. Blood cholesterol was not raised. Histologically the nodules appeared to be typical xanthomata, but foam cells were negative to fat, mucin, and glycogen tests. Loosening of all teeth occurred; heat caused the appearance of fresh skin nodules; there were vitamin C retention and hyperkeratosis of thighs. Massive growth of the axillary node was followed by ulceration; severe muscular weakness was present, but no anaemia. The patient died after 3 years.

Post-mortem examination showed xanthomatous erosion of bone in relation to the swollen joints; the axillary tumour was sarcomatous and neuritic, but there were no metastases. Muscles (skeletal only) were pale and swollen, with lipid degeneration of fibres and presence of xanthoma cells within the fibres. A positive reaction to a neutral fat was given by some of the droplets and some xanthoma cells—the only mesenchymal tissue in which a sudanophil reaction was obtained. The reticulo-endothelial system was virtually unaffected, but the femur marrow showed gelatinous degeneration. The endocriines were normal.

A. C. Lendrum.

Treatment of Chronic Rheumatism with Organic Salts of Copper. (Le traitement des rhumatismes chroniques par les sels organiques de cuivre.) ForreSTER, J., and CerToNcEy, A. (1946). Presse méd., 54, 884.

Since 1942, following previous German observations, the authors have conducted therapeutic tests at Aix-les-Bains of organic copper compounds in chronic rheumatic diseases. In their first series of 44 cases, published in 1944, there was a very favourable response in 20% and moderate improvement in 35%. The dose of copper in this series varied from 0·01 to 0·10 g, and the total quantity in one course from 0·6 to 1·5 g. The percentage of successful results increased with the higher doses used in the second series of 50 cases, now reported. Usually 0·25 g has been given twice weekly, and the total quantity in one course has been 2·5, 3, 4, or even 5 g. An interval of 1 month has been allowed.
between the first and second courses, and of 2 to 3 months between subsequent courses.

Attention is directed to the use of this copper compound in a syndrome of chronic polyarticular hydrarthrosis, which the authors consider to be a distinct entity; multiple joint effusions occur without synovial thickening and with little pain or disability, but have proved very refractory hitherto to all therapeutic methods. Effusion completely disappeared in 3 out of 5 cases. No toxic reactions occurred. *Kenneth Stone.*


An arthroplasty operation for cases of painful arthritis of the metacarpo-phalangeal joint, with or without deformity, is described. It is most applicable in cases which have not responded to conservative treatment, especially cases of rheumatoid arthritis which have developed marked ulnar deviation and dislocation of the metacarpo-phalangeal joint. A longitudinal incision is made between the joints if two adjacent joints are affected, or a curved transverse incision if all the joints are to be treated. The head and a portion of the neck of the bone are excised; as the bone is soft, it is removed with cutting scissors. A pseudo-arthritis is formed and the capsule is sutured. After operation a compression bandage is used with the fingers in full flexion, and movements are started on the second day.

[The post-operative results are described as good and the procedure seems worth a trial. A similar operation has been used for many years on the foot with success.] *K. H. Pridie.*

**Non-Articular Rheumatism**


Various theories on the causation of psoriatic rheumatism are reviewed. The author favours an infective cause acting through an allergic mechanism; the most important single organism responsible would be a streptococcus. Estimates of the incidence of the skin and joint lesions in combination vary greatly. The age incidence is over twenty and highest at 40 to 45, with slight preponderance in males. The skin lesions usually precede the joint lesions, and exacerbations of both types tend to occur together. The psoriasis may be of all types, and the nail lesions, producing longitudinal fissures, transverse striae, and punctate depressions, are stressed. The author describes separately the various forms of arthritis occurring with psoriasis—the "forme fruste," with myalgia and neuralgia; typical chronic progressive rheumatoid arthritis, indistinguishable from the form without skin lesions; subacute and chronic monarticular forms; recurrent or chronic hydrarthroses; periarticular form; acute generalized form; ankylosing spondylitis.

Blood chemical analysis reveals no constant changes but cell changes, such as leucocytosis with granulocytosis and sometimes monocytosis or eosinophilia, are usual. Estimation of the erythrocyte sedimentation rate has diagnostic, prognostic, and therapeutic value. Diagnosis may have to be made from rheumatic fever, particularly by the absence of cardiac lesions and the failure to respond to salicylates; from osteo-arthritis; from infective arthritis; from keratoderma blennorrhagica when accompanied by arthritis; from Still’s disease; from syphilis and tabes. Prognosis is difficult but on the whole poor. Treatment recommended is on the usual lines and, for the skin lesion particularly, on the whole unsatisfactory. Parenteral iodine, in inorganic and organic forms (for instance, as "lipiodol", 1 or 2 ml intramuscularly every 48 hours), gold (up to a total of 2 or 2.5 g. in a course), colloidal sulphur, and tuberculin treatments are also described. The author cautions against using very active remedies for the skin lesions in view of the danger of exfoliative erythrodermia, and he recommends 5 to 10% ichthiol in mineral oil.

Three full case reports are given. *L. P. R. Fourman.*


The successful treatment of sciatica must depend on a painstaking search for the aetiological agent. A historical survey of the classifications of Landouzy, Déjerine, and others is made, with a short discussion of points in differential diagnosis of radiculitis, funiculitis, plexitis, and neuritis. In the author’s view, herniation of an intervertebral disc is a rare cause of sciatica and there is a tendency at present to make the diagnosis too often. A number of cases of sciatica of different aetiology are discussed and the standard treatment described. *S. S. B. Gilder.*


**Sciatica and Lumbago due to Rupture of the Intervertebral Disk.** (Ciática y lumbociática por lesión del disco intervertebral.) CARLOS ETHCHEGOYEN, J. (1947). *Prensa med. argent.*, 34, 583.
