LIGUE INTERNATIONALE CONTRE LE RHUMATISME
IX INTERNATIONAL CONGRESS, TORONTO, 1957

The Ninth International Congress on Rheumatic Diseases will be held at Toronto, Ontario, Canada, from June 23 to 28, 1957. This quadrennial function of La Ligue Internationale contre le Rhumatisme will be held under the auspices of the Canadian Rheumatism Association.

The Programme Committee invites contributions to the scientific programme of the Congress and is anxious to receive reports on current clinical or basic research dealing with any aspect of the rheumatic diseases.

Those offering papers for consideration should submit a 200- to 300-word abstract, not later than January 1, 1957, in triplicate in the language in which the paper is to be read. If an abstract is submitted in a language other than English, it will be helpful, though not essential, if it can be accompanied by an English translation.

All correspondence should be directed to:
The Ninth International Congress on Rheumatic Diseases,
Post Office Box 237,
Terminal “A”,
Toronto, Ontario, Canada.

Le Neuvième Congrès International sur les Maladies Rhumatismales aura lieu à l'hôtel Royal York, Toronto, Ontario, Canada, du 23 au 28 juin 1957.

Toute correspondance doit être adressée à The Ninth International Congress on Rheumatic Diseases, Post Office Box 237, Terminal “A”, Toronto, Ontario, Canada.


Wir bitten, jede Korrespondenz an folgende Anschrift zu senden The Ninth International Congress on Rheumatic Diseases, Post Office Box 237, Terminal “A”, Toronto, Ontario, Canada.


Toda la correspondencia deberá ser dirigida a The Ninth International Congress on Rheumatic Diseases, Post Office Box 237, Terminal “A”, Toronto, Ontario, Canada.

CANADIAN RHEUMATISM ASSOCIATION
SOCIÉTÉ CANADIENNE DE RHUMATOLOGIE

The Annual Meeting of the Canadian Rheumatism Association was held in Quebec City on June 14 and 15, 1956. La Société du Rhumatisme de Québec acted as host at the social events and demonstrated the charm of our French Canadian culture and the beauty of our oldest city to the English-speaking members. An official French name for the Canadian Rheumatism Association was adopted, viz. “La Société Canadienne de Rhumatologie”. Thirty new members were elected, bringing the total membership to 144. Mr. Edward Dunlop and Mr. B. H. Rieger were made honorary members for their work with the Canadian Arthritis and Rheumatism Society and the Congress Committee.

The forthcoming Ninth International Congress on Rheumatic Diseases will be held in Toronto, Canada, on June 23 to 28, 1957. The Canadian Rheumatism Association will be host to this event and it is hoped that the Canadian bilingual culture will make all visitors welcome. The plans and arrangements are under a Congress Committee whose chairman is Dr. D. C. Graham. The plans outlined at this meeting suggest that everything will be well arranged.

The following Executive was elected for 1956-57:
President: Dr. A. A. Fletcher, Medical Arts Bldg., Toronto, Ont.
Past President: Dr. H. G. Kelly, Kingston General Hospital, Kingston, Ont.
First Vice-President: Dr. Roland Dussault, 847 Rue Cherrier, Montreal, P.Q.
Second Vice-President: Dr. A. W. Bagnall, 3195 Granville Street, Vancouver, B.C.
Secretary-Treasurer: Dr. J. B. Frain, Winnipeg Clinic, Winnipeg, Man.
Representing Council: Dr. M. A. Ogrzylo, Toronto General Hospital, Toronto, Ont.
Dr. de Guise Vaillancourt, Hôtel Dieu, Montreal 18.

Scientific Sessions.—These were held under the chairmanship of the 1955-56 President, Dr. H. G. Kelly, assisted by Dr. Jean Rousseau of Quebec and Dr. de Guise Vaillancourt, the Programme Chairman. Abstracts of the papers presented are printed below:

**Vertebral Lipping.** By IAN MACNAB (Toronto): Four main types of vertebral lipping had been recognized:
- Traction spur projecting horizontally from the vertebral body;
- Claw lip;
- Cap spondylophyte;
- Bubble spondylophyte and confluent spondylophytosis.

The term spondylophyte had been used to cover all forms of vertebral lipping. In order to assess the clinical significance of these various forms of spondylophytes, their pathogenesis was studied. The traction spur was found to be associated with a collapsing disk. Cap spondylophytes were formed by metaplasia of the outer fibres of the anulus, and bubble spondylophytes were invariably found in association with tears of the posterior fibres of the anulus.

It was felt that a small traction spur was indicative of a spinal segment that might be the source of pain, especially if this was an isolated finding and especially if it were confirmed by abnormal movements of the flexion extension x rays. The claw spondylophyte when small was also associated with an unstable segment but when large was generally indicative of a collapsed and stable segment which was unlikely to be the source of pain. Confluent spondylophytosis was invariably associated with complete bony ankylosis of the associated segment and therefore this segment could not be giving rise to pain. The significance of the cap spondylophyte lay chiefly in its recognition. It was important to differentiate this type of vertebral lipping from fractures of vertebral lips which it simulated.

**Prevention and Correction of Deformity of the Knee in Arthritis.** By ROGER GARIÉPY (Montreal): Prevention of flexion contracture of the knee must be initiated very early in the course of an arthritic inflammation; failure to do so induced a deformity which may be permanent. At the stage of the irreversible synovitis, correction of flexion contraction might be achieved by simple manipulations done repeatedly without effort so as to avoid articular injury. Synovectomy might have to be considered in order to improve the mechanical function of the joint. Forceful straightening of the knee under anesthesia might often give good results provided mobilization of the involved joint was resumed soon afterwards. Should ankylosis be marked, a correction of the flexion by osteotomy involving the condyles of the tibia was preferable to a posterior capsulectomy or a supracondylar osteotomy.

**Distribution of Serum Uric Acid and Some Observations on the Activity of Uricase.** By JEFFREY E. MORRIS (Winnipeg): Serum and serum ultrafiltrate were subjected to electrophoresis on filter paper using a borate buffer. Uric acid was identified as a blue colour by spraying the strips with modified Folin’s reagents. With serum two zones were identifiable as free uric acid and albumin-bound uric acid. Serum ultrafiltrate provided a single band corresponding with free uric acid. The concentration of uric acid in serum ultrafiltrate was less than that of the parent serum, the difference being related to the serum albumin concentration in normals and in patients with various diseases.

The activity of uricase powder prepared from ox kidney was investigated on substrates of serum, serum ultrafiltrate and standard solutions of uric acid. Observations of the rates at which uric acid chromogen disappeared from these substrates during their incubation with uricase gave rise to the speculation of the presence of an activator for uricase in serum and serum ultrafiltrate. Further experiments indicated that a heat-stable ultrafiltrate activator existed in serum; it could be absorbed from serum by activated alumina and removed from serum ultrafiltrate by passage through an anion exchange resin.

**Nature and Origin of Fibrinoid in Subcutaneous Nodules of Rheumatic Fever and Rheumatoid Arthritis.** By HENRY Z. MOVAT and ROBERT H. MORE (Kingston, Ont.): The terms “fibrinoid degeneration of connective tissue” and “fibrinoid substance” were introduced in 1880 by Neumann. The nature and origin of this substance and the process of its formation had puzzled pathologists for the past 75 years, but more especially since Kline’s studies of rheumatic diseases in the early 1930s, and those of Klemperer and his co-workers some 15 years ago. Klemperer, Pollack, and Baehr introduced the term “collagen disease” to cover a group of conditions characterized by alteration of connective tissue and by the presence of fibrinoid.

Various investigators had in turn postulated theories on the origin of fibrinoid from collagen, or fibrin, or ground substance.

The morphological, tinctorial, and histochemical properties of fibrinoid from nine rheumatic and 21 rheumatoid nodules were studied.

In most cases, but particularly in early nodules, fine threads, meshes, and strands of fibrin could be demonstrated which conglomerated to form masses showing all the characteristics of fibrinoid. The latter had been defined as an acidophilic, homogenous, and refractile material giving staining reactions identical to fibrin.
It was demonstrated that haematoxylinophilia and Feulgen positivity were not only properties of fibrinoid in disseminated lupus erythematosus, but also occurred at times in rheumatoid and rheumatic subcutaneous nodules. Histochemically tyrosine, tryptophane, cystine, and cysteine were present in fibrinoid from both types of nodules. These amino acids were present in serum proteins but absent or in low concentration in collagen. Incubation of tissue with hyaluronidase altered the specific mucopolysaccharide staining material but not the fibrinoid. Collagenase digested collagen but left fibrinoid unaltered. Trypsin resulted in the digestion of fibrinoid but not of collagen. Fibrinolysin led to the digestion of fibrinoid in frozen substituted tissue. These findings provided evidence for the almost certain origin of fibrinoid in rheumatic and rheumatoid nodules from fibrin.

Similar findings were also obtained in fibrinoid in other collagen diseases and in fibrinoid produced experimentally.

Antistreptolysin-O Titres in Normal Young Adults and in Disease. By Maurice Saint-Martin (Montreal): A comparative study was presented of antistreptolysin-O serum-levels in five groups of individuals:

(a) normal young adults;
(b) patients with active rheumatic fever;
(c) patients with inactive rheumatic fever;
(d) patients with rheumatoid arthritis;
(e) patients with miscellaneous diseases accompanied by joint or extremity pain.

Since these levels in a given population were dependent on the frequency of its past streptococcal infections, a survey of normal adults was initiated to indicate what values could be considered as high or low. A low value was arbitrarily established at 50 units or less since 56.6 per cent. had such a titre. A high value was found to be 250 units or more with only 2.2 per cent. of the population included. In active rheumatic fever, 76 per cent. had high values, whereas only one case had a titre of 50 units. Levels somewhat higher than normal were found in inactive rheumatic fever. Values in rheumatoid arthritis and miscellaneous diseases were very similar to those in normal subjects. Mean titres were 665 units for active rheumatic fever, 130 units for inactive rheumatic fever, and 78 units for normal subjects.

Two general patterns were observed in the evolution of rheumatic fever: one, less frequent, where a gradual decrease in titre accompanied clinical recovery, and, another, where the titre remained elevated for many months in spite of clinical recovery. In conclusion, since no single diagnostic test for the presence of active rheumatic fever had been established to data, the determination of antistreptolysin-O titre was a useful procedure in the differentiation of rheumatic fever from other types of arthritis. A low value might be regarded as an important exclusion test, and a high value, although of lesser significance, should be critically appraised before excluding active rheumatic fever.

Observations on Conjugated and Unconjugated Steroids in Human Blood. By Marvin Darrach (Vancouver): The free and conjugated adrenal steroid fractions of peripheral plasma from twelve normal human males were studied by paper chromatographic methods. The effect of ACTH on blood adrenal steroids in normal and arthritic patients was discussed. A survey of present concepts of adrenal steroid metabolism in the human was related to the rheumatic diseases.

Stress and the Rheumatic Diseases. By Gaétan Jasmin, Pierre Bois, and Hans Selye (Montreal): After a brief definition of the meaning of 'stress' in its medical connotations, the authors outlined the role of the pituitary-adreno-cortical system in combating the damage produced by various stressor agents. Special emphasis was laid upon ACTH, STH, cortisone, and aldosterone in the production and inhibition of inflammatory reactions in general.

The scientific analysis of the pathogenesis of inflammatory disease depended largely upon appropriate test objects, which permitted a quantitative appraisal of inflammation. Among these tests the 'granuloma-pouch' technique, topical irritation arthritis, experimental polyarthritis, and the more diffuse collagen diseases (periarteritis, myocarditis, renal lesions, etc.) induced by overdosage with mineralocorticoids, received special attention.

The available data concerning hormonal factors in the pathogenesis of diseases in man (particularly rheumatic diseases) was surveyed on the basis of hormone determinations in blood and urine.

The observations were interpreted as indicating that stress in general and the pituitary-adrenal system in particular played important parts in the pathogenesis of rheumatic diseases and many other maladies.

Serum Mucoproteins and Electrophoretic Patterns in Rheumatic Diseases. By Kenneth R. Mackenzie, Louis G. Johnson, and Cooper H. Stacey (Montreal): The nature of the serum mucoproteins was briefly discussed. The level of the serum mucoproteins, using the biuret reaction after precipitation with perchloric and phosphotungstic acids, was measured in four hundred cases of rheumatic disease and these levels were correlated with the nature and activity of the disease process. The serum mucoproteins in an unselected group of 150 cases of rheumatoid arthritis consistently tended to be elevated above the normal and might reach a level in excess of 400 mg per cent. These values were also elevated in other forms of inflammatory joint disease. The serum mucoprotein levels might increase before clinical exacerbation became evident and return towards normal in association with clinical improvement. It was felt that serial observations of this serum component were of value in following the course of the disease. In osteo-arthritis the levels fell within the normal range unless complicating factors coexisted. Changes in the serum mucoprotein levels during therapy were demonstrated.

Since it was demonstrated that the serum muced...
proteins migrated with the alpha globulins in an electrophoretic field, the electrophoretic pattern of the serum proteins was determined in 57 unselected cases of rheumatoid arthritis. Consistent, but non-specific changes were observed in these patterns during active phases of the disease process. These changes were characterized by a lowering of the serum albumin and an elevation of the alpha 2 and gamma globulins. Changes associated with steroid therapy and the remissions and exacerbations of the disease were demonstrated.

Interrelationship of Various Tests for the “Specific” Rheumatoid Arthritis Factor. By Ronald W. Lamont-Havers (New York): Various means had been developed to demonstrate the “specific” factor in rheumatoid arthritis. These included the use of group-A haemolytic streptococci, sheep erythrocytes coated with specific rabbit anti-sera, tannic-acid-treated sheep erythrocytes coated with F 11 fraction of human globulin, latex particles coated with human gamma globulin, and the “neutralization” technique as a precipitin reaction.

The possible common reaction involved in these phenomena, and some ideas on pathogenesis and on the relationship of lupus erythematosus disseminatus to these reactions were discussed.

Case of Metabolic Bone Disease. By Roger Demers, Jacques Duquette, J. B. Gagnon, and Marc Francoeur (Montreal): A 54-year-old married female, in good health until 1951, developed marked myalgia involving mainly the limbs but with no real arthralgia. The myalgias were associated with considerable weakness. She had been bed-ridden for the past 4 years and muscular atrophy had since been progressive. Under cortisone therapy she developed oedema.

Her family physician had given her an average daily dose of 300,000 units of vitamin D to overcome osteoporosis. After 3 months of this therapy, she developed symptoms of vitamin D intoxication. Nodules containing calcium phosphates and urates appeared in the soft tissues of the hands, neck, and shoulder regions.

When admitted to hospital in December, 1955, she was rather drowsy and renal insufficiency was prominent. Extensive metabolic studies, photographs of the nodules, x-ray films of the bones, and biopsy reports with slides were presented.

The following suggestions were made:

1. The inflammation was usually in the soft tissues outside the shoulder joint itself— injection of hydrocortisone into the joint cavity was too often useless.
2. The most frequent site of inflammation was the subacromial bursa which did not communicate with the shoulder joint.
3. Almost as frequently involved, either alone, or with the subacromial bursa, was the tendon sheath of the long head of the biceps muscle. Normally, this sheath communicated with the shoulder joint but it was easily shut off by inflammatory adhesions from the shoulder joint.
4. Other foci of inflammation might be present in the "cuff" of the shoulder, but were much less frequent.
5. Because of these anatomical variations in the site(s) of inflammation, to ensure good results from hydrocortisone injection, it was necessary to have an accurate "indicator" of whether the injected hydrocortisone had been brought into contact with all the inflammatory foci. Procaine mixed intimately with the hydrocortisone served admirably as such an indicator. At the end of the injection, there should be no further pain on movement of the shoulder.
6. Tenderness to light palpation over the biceps groove was indicated in that it was inflamed and it was therefore infiltrated first with the "indicator" mixture. After this, if there was still pain on movement or if the biceps groove was tender, the subacromial bursa was infiltrated and the adjacent capsule explored for tender spots. Non-inflamed structures around the shoulder joint were not painful when needled: thus, the mixture should be injected when painful spots were encountered by the tip of the exploring needle. Occasionally, it was also necessary to infiltrate the inferior cul-de-sac (from behind).
7. 1 ml. hydrocortisone to 3 ml. 1 per cent. procaine was used for the "treatment-indicator" mixture.
8. Pain reactions to the needle were not uncommon. They did not prevent an eventual good result but should be anticipated by arranging a small supply of a potent anodyne.

Hypersensitivity Reactions to Cortisone and Its Analogues. By Arthur W. Bagnall (Vancouver): Cortisone and its analogues were very useful in the treatment of allergic disorders. However, on rare occasions they themselves might act as foreign-body allergens. Urticaria and angio-oedema had been seen, and even fatal anaphylactic shock had been reported in two cases of asthma when oral cortisone was resumed after an interval of 5 days.

In 1951, the author had published a report on "Paradoxical Behaviour of the Erythrocyte Sedimentation Rate in (intramuscular) Cortisone Therapy". The significance of this was still not clear but might be related to the Arthus phenomenon.

In "non-traumatic" intra-articular injections, one might expect an immediate reaction to the injection of hydrocortisone, or prednisolone in about one in a hundred injections. There was no obvious explanation for this. It might happen with the first injection, and, on the other hand, further injections might be free of this reaction. In some, the pain reaction became worse with each injection, suggesting the pattern of the Arthus phenomenon. This was not the rule and the cause of these local reactions remained obscure.
While a “serum-sickness pattern” had not been reported in the literature to date, two patients had been observed with delayed “serum-sickness pattern”, occurring 5 and 10 days after an acute severe immediate local reaction to an intra-articular injection of hydrocortisone acetate in one, and of prednisolone acetate in the other. Both responded satisfactorily, and lastingly, to a short course of oral steroid therapy—cortisone being used in the first instance, and prednisone in the second. In neither was there a past history of allergy.

Local adverse hyper-reactions to hydrocortisone and prednisolone, and more serious reaction patterns, such as “serum-sickness” and shock, were so rare as not to contraindicate the use of these valuable therapeutic adjuncts. Nevertheless, it seemed advisable to call attention to the occurrence of these reactions and to the efficacy of “fighting fire with fire” in their treatment.

Rehabilitation Centre and Rheumatic Diseases. By HAROLD S. ROBINSON (Vancouver): A group of 125 rheumatic patients had been treated in the Canadian Arthritis and Rheumatism Society Rehabilitation Centre in Vancouver over a 5-year period. 124 of these patients had been followed by one or more members of the rehabilitation team to the present time.

The team’s approach to treatment and the means of follow-up support were discussed briefly. Comment was made on the pitfalls of assessment and rehabilitation treatment in rheumatic states.

The pattern of improvement in the socio-economic sphere was demonstrated.

Stress was laid on the value of a period of intensive treatment in a medical treatment centre where the patient was orientated to his disease, its treatment, and its potentialities. The value of continued follow-up support was implied in the results of the follow-up study.

Rheumatic Manifestations in Hodgkin’s Disease, Leukaemia, and Allied Conditions. By EDMOND PAQUET and JEAN-MARIE DELAGE (Quebec): Osteo-arthritic symptoms, especially vertebral ones, were prominent among the many and varied manifestations of Hodgkin’s disease and the leukaemias. In the event of an obscure arthralgia, one should consider the possibility of one of these conditions as being the cause of the ill-defined joint pain.

The frequency of rheumatic pain as an early symptom of Hodgkin’s disease or of one of the leukaemias was pointed out; it was shown that arthralgia is a symptom not infrequently encountered during the evolution of these conditions.

Rheumatic pain having been defined, a review was made of several hospital records of patients with Hodgkin’s disease, lympho- and reticulosarcoma, acute or chronic leukaemias, and multiple myeloma. The diagnoses were established on clinical data confirmed by anatomo-pathological procedures: biopsy, bone marrow aspiration, or autopsy.

There was no constant correlation between pain manifestations and bone lesions seen in x rays. In Hodgkin’s disease, the spine, particularly the lumbar segment, was often involved. Involvement of the lumbar segment of the spine or of the sacro-iliac joints almost always induced back pain with or without radiation to the lower extremities.

Osteo-articular manifestations were more frequent in the acute leukaemias of childhood than in any other varieties of leukaemia and often simulated either acute rheumatic fever or Still’s disease (juvenile rheumatoid arthritis).

Finally, multiple myeloma might so very well suggest one of the arthropathies that one had to consider this possibility when confronted with an adult patient suffering from an obscure, painful bone pathology. Rheumatic pain was among the most frequent manifestations of multiple myeloma and might be the only clinical manifestation of the disease.

Marie-Strümpell Spondylitis with Rheumatoid Nodules. By HUGH A. SMYTHE (Toronto): A great body of evidence had been accumulated which indicated thatankylosing spondylitis, with or without peripheral joint involvement, was an entity distinct from rheumatoid arthritis. Recent observations on heredity, on serological reactions, and on cardiac complications reinforced these views. Proved rheumatoid nodules had never been reported in association with spondylitis. Occasional references to the presence of nodules in association with spondylitis and peripheral arthritis were to be found, but case reports and studies of incidence were few.

In a group of over 500 spondylitics investigated in the Arthritis Service at Sunnybrook Hospital, there had been only one with rheumatoid nodules. This case was presented in detail.

Multiple Myeloma: Presenting Symptoms and Course. By JOHN R. MARTIN (Montreal): A delay in the diagnosis of multiple myeloma often occurred because of the wide variation in the presenting picture and the fact that it might mimic many other more commonly diagnosed illnesses.

Records of patients with this disease from the Montreal General Hospital, Queen Mary Veterans Hospital, and Royal Victoria Hospital were reviewed with respect to the initial symptoms and the clinical and laboratory findings. The complications and the course of the disease in the patients in these series were also noted.

Some Aspects of Infectious Arthritis. By SIMON DWORIN, LOUIS G. JOHNSON, and KENNETH R. MACKENZIE (Montreal): This report dealt with a group of nineteen male patients whose illness was characterized by two features: recurrent episodes of polyarthritis and a history of gonorrhea infection. In one of the cases was an original Neisserian infection proved; in all the others the history of urethritis was clear enough to justify an assumption of such an infection. In two cases out of nineteen, the first attack of arthritis supervened during or shortly after the acute infection; in the rest the joint disease occurred much later, after clinical subsidence of the urethritis.
With respect to clinical course, there was great variation in the degree of articular involvement, as well as in the frequency of attacks. The duration of any one attack varied, but was apt to be rather long.

In order of frequency the joints involved were hands, wrists, feet, knees, and ankles, shoulders, lower back. There were the usual signs of acute inflammation both on the clinical and laboratory side. However in some instances the sedimentation rate and mucoproteins were normal. The ultimate effects in regard to deformity and disability did not seem to be as grave as in cases of equivalent duration or intensity that would be diagnosed as rheumatoid arthritis.

These cases proved very refractory to treatment, whether by a succession of antibiotics, or induced hyperpyrexia, or cortisone. Rest and physiotherapy seemed to be as useful as any of the modalities mentioned.

It seemed reasonable to regard the arthritis described as a sequel to an original gonorrheal infection, although definite proof was often lacking. The main question posed by these and similar observations elsewhere was whether the present method of treating acute presumable or proved gonorrheal infection was adequate, or whether it should be supplemented with follow-up therapy at intervals.

Psychological Factor in Rheumatoid Arthritis. By ALBERT W. GROKOEST (New York): A review of the current views on the psychological factor in rheumatoid arthritis was followed by an effort to show that the stress or stimulus, whether infectious, traumatic, or emotional, is non-specific. No central nervous system influence on the peripheral inflammatory lesion of rheumatoid arthritis had yet been demonstrated. With the non-specificity of the stress, a neuro-humeral link was missing in the concept of rheumatoid arthritis as a psychosomatic disease.