ABSTRACTS

[This section of the Annals is published in collaboration with the two abstracting Journals, Abstracts of World Medicine, and Abstracts of World Surgery Obstetrics and Gynaecology, published by the British Medical Association. The abstracts are divided into the following sections: acute rheumatism; chronic articular rheumatism (rheumatoid arthritis, osteo-arthritis, spondylitis, miscellaneous); sciatica; gout; non-articular rheumatism; general pathological articles; other general articles. At the end is a list of articles that have been noted but not abstracted. Not all sections may be represented in any one issue.]

Acute Rheumatism


Over 3,000 patients with rheumatic fever and 3 control groups (1,397 people) were studied. The authors found that the occurrence of rheumatic fever in the family increases the risk of the individual developing the disease while he is still in contact with his family, but not after he is separated from it. There does not, therefore, appear to be a strong and inherited susceptibility. The occurrence of multiple cases in families could be explained either on the basis of common environment or contagion. The authors regard the data as indicating the dominant role of contagion in the development of rheumatic fever. R. T. Grant.


In the United States Navy the incidence of rheumatic fever rose from 0.73 per 1,000 in 1940 to 2.29 in 1944, when the disease was second only to simple fractures in causing loss of manpower. The increase coincided with epidemics of haemolytic streptococcal infection; 21-5% of the men already had valvular heart disease at the time of discharge.

This paper deals with 757 patients of 1,470 admitted to a naval rheumatic fever hospital during 1945-6. At least 25% came from towns, and 24-5% had had a previous attack of rheumatic fever; 54-4%, first contracted the disease at the age of 17 to 19 years, and 77-4% during their first year of naval service. The heaviest incidence was in December and January; 72% had a history of previous respiratory infection. Prophylactic sulphonamides caused a dramatic but temporary fall in incidence, sulphonamide-resistant strains soon appearing. In training centres the quarters were crowded and frequently ill-ventilated, especially in winter, and susceptible recruits were constantly arriving. In ships the accommodation, though crowded, was usually well-ventilated and streptococcal infections were uncommon.


Two cases of pregnancy complicated by acute rheumatic heart disease are described. In neither case was there clinical evidence of heart disease before delivery. One patient died 2 hours after delivery with symptoms of shock, and the other developed acute abdominal pain 9 hours after delivery and died in a few minutes. In both cases necropsy and histological examination revealed recent rheumatic carditis and valvulitis.

Six cases of mitral stenosis in pregnancy in which the patients died from cardiac failure were examined for evidence of recent rheumatic carditis. In 4 there were signs of recent disease, and 1 had subacute bacterial endocarditis. In the sixth there was established mitral stenosis, but no evidence of recent rheumatic carditis.

It is suggested that in all cases in which the patient dies from obstetric shock without obvious cause the heart should be examined histologically for evidence of rheumatic carditis.

L. W. Lauste.


Observations were made through pregnancy and the puerperium on 142 women with rheumatic heart disease; it is concluded that pregnancy itself has little effect on the prognosis in rheumatic heart disease.


Aschoff bodies in the myocardium of patients with infective endocarditis have been noted in many reports in the literature. The author reviews the evidence on their significance, and concludes that they do not represent a reaction to the bacterial infection, but that their presence is evidence of a rheumatic carditis. In the work here recorded, 34 cases of subacute, and 12 cases of acute, bacterial endocarditis were studied histologically. The author concludes that in the majority of cases of subacute, and in a smaller percentage of cases of acute, bacterial endocarditis the bacterial lesion is superimposed upon the site of an active rheumatic carditis.

The argument of course breaks down if the lesions observed are not specific reactions to the rheumatic infection.

Kenneth Stone.


The author considered salicylazo-sulphapyridine, which he abbreviates to "salazopyrin", to be worthy of trial in the treatment of polyarthritis. On oral administration much of this drug was not broken down but was excreted unchanged in the urine. It was found by histological experiment that this compound had an affinity for connective tissue, where it formed "deposits" before being broken down locally into amino-salicylic acid and sulphapyridine.
The dose was 6 g. in 24 hours, which was reduced as improvement occurred. Of 107 patients with rheumatic fever who were given this drug and could be followed up adequately, 95 "have fully recovered or have only slight symptoms". The author regards these results as encouraging and gives a temperature chart and case histories of patients suffering from acute polyarthritis who were treated with salazopyrin. On 475 patients suffering from chronic polyarthritis and treated with the compound, 307 were followed up; 63% recovered or showed improvement. She considers that more would have responded favourably if they had been more persevering in taking the compound, but many patients found that the treatment was expensive or produced toxic symptoms and so they discontinued it. Several patients who complained of toxic manifestations with fever and rash could be desensitized by the administration of much smaller doses. Periarticular injections were also tried with "undoubted effect". A case is described of a patient with ankylosing spondylitis who responded well to the treatment.

[Apparently the author considers rheumatic fever and rheumatoid arthritis as manifestations of the same disease. The results of therapy do not differ from those ascribed to the infinite number of therapeutic procedures already advocated for these conditions.]

W. Tegner.


"Benadryl", in increasing dosage up to 500 mg. per day, was administered over a 21-day period to 8 of 16 patients exhibiting clinical or laboratory abnormalities attributed to long-continued activity of rheumatic fever. No apparent alteration in the course of the patients either during or after benadryl therapy was observed. An unpleasant reaction, manifested by facial erythema, throbbing frontal headache, anorexia, nausea, and vomiting occurred upon cessation of benadryl. The failure of benadryl favourably to affect the course of chronically active rheumatic fever is to be expected. A review of the previous therapy of benadryl and a critical report of its effectiveness in the prevention of anaphylactic vascular lesions in experimental animals suggest its trial in the prophylaxis and treatment of early acute rheumatic fever at a station where suitable clinical material is available.—[Summary and conclusions.]


This paper describes the cutaneous nodule of acute rheumatic disease under the briefer but parochial term of Meynet's nodule. This is contrasted with the syphilitic plasmona of Unna and the follicle of Koester [again the author's terminology]. Histological appearances of two nodules from one case are described, but no technical data are given with the photomicrographs (fixation, staining method, magnification), and there are no references to the literature. He likens one stage of the nodule under discussion to the Aschoff nodule of the heart, but this is not as helpful as it might have been since he gives no evidence of knowing the two very different focal lesions which occur in the heart in acute rheumatic disease. Incubation with material from one of the nodules is said to have produced torticollis and myositis in a rabbit.

A. C. Lendrum.

Chronic Articular Rheumatism

(Rheumatoid Arthritis)


The authors describe their methods of dealing with flexion-contracture of the knee in cases of severe rheumatoid arthritis.


A study was made of 35 cases of rheumatoid arthritis in children, 10 being under the author's own observation. The following factors—infecion, trauma, and allergy. Culture of joint fluids failed to yield pathogenic organisms, and cultures from the nose and throat did not differ from those of controls. Respiratory infection preceded the onset of arthritis by 3 to 10 weeks in 16 cases.

There had been trauma in 10 cases and allergic symptoms in 2. Of 28 cases studied for 3 years or more, 9 relapsed after periods of up to 8 years after puberty.

Relapses tended to be more damaging to the joints than did the original attack. Pathological changes in the synovial membrane in children resembled those in adults, but pannus formation was more limited and cartilage destruction less.

In no case were the spinal or sacro-iliac joints involved, though one relapse took the form of ankylosing spondylitis. The bones showed calcium deficiency and this persisted even after complete quiescence.

Two patients in this series developed cardiac disease. In 1 case amyloid disease was the cause of death, this complication being more common than is generally recognized. Enlargement of the liver and spleen occurred in 6 and 5 cases respectively, but general enlargement of the lymph nodes in only 1.

Gold therapy is regarded as disappointing. Of the 35 patients treated, 3 died and 14 were completely, the rest being crippled. In spite of the danger of relapse the author holds that this 40% recovery rate justifies a more hopeful prognosis than is usually given.

H. F. Tumney.


The author gives a brief account of the 65 children under 15 treated for all forms of chronic polyarthritis between 1934 and 1946. Two-thirds of them were treated with gold; reports of the use of gold in children are few. The total amount per course varied from 100 to 400 mg. for a weight of 15 kg. to 800 to 1,000 mg. for a weight of 50 kg. It was given in 10 injections, usually intramuscularly. There were reactions in 84%, such as an increase in pain or fever, and 17% developed albuminuria or haematuria, a higher percentage than usual in adults; 53% developed definite complications, mainly affecting the skin (40%) or the blood (12%). There was no case of agranulocytosis, encephalitis, or serious purpura. The incidence of complications was unrelated either to the number of injections or to the total amount given. The results as assessed at the last discharge showed improvement in 84%, and very considerable improvement in 58%. A. M. M. Wilson.
Complications of Gold Treatment of Chronic Polyarthritis.

The author reports his experiences with 762 courses of gold given to 620 patients suffering from chronic polyarthritis. Of the patients 62% were women; 56% of them and 66% of the men were under 50; the majority had had the disease for under 5 years. Three-quarters of the courses were of "solganal" and the total gold given varied from 0.8 to 1.0 g. The author agrees with Sundelin that reactions, hypersensitivity, and complications are difficult to differentiate, but gives the following figures. Reactions and complications occurred in 40%, leading to cessation of treatment in 6-8%, and death in 2 cases. Reactions (which led in no case to cessation of treatment) affected mainly the blood—the leucocyte count fell temporarily to below 3,000 in 9%, eosinophilia of over 15% occurred in 2.5%, and the platelet count fell to below 150,000 in 18%. Haemoglobin values and red cell counts also often fell. Albuminuria occurred in 1-6% and haematuria in 0.5%. Complications (for which treatment had to be stopped) affected mainly the skin (4.4%), but there were no serious cases of dermatitis. Encephalitis and panmyelophthisis accounted for the fatal cases.


The author reports the results of treating 1,904 cases of rheumatoid arthritis with 2,817 courses of gold injections between 1941 and 1946. The immediate results were good; in over 90% there was subjective and objective evidence of general and local improvement. Later results were variable and have not been fully worked out. Minor complications occurred in 50% and severe ones requiring cessation of gold treatment in 4-5% (severe dermatitis, granulopenia, purpura, encephalitis, and pneumonia). There were 7 deaths, all in women, an incidence of 0.36%. The author gives his views on gold therapy.


In view of the favourable claims for an allergic factor in rheumatoid arthritis and because gold salts seem to alter favourably the course of the disease, it was thought desirable to determine whether gold could prevent histamine toxicity and anaphylactic shock and could beneficially effect the Arthus phenomenon in animals. Various experiments carried out on guinea-pigs indicated that gold had no such action, and it was concluded that the therapeutic action of gold did not rest on inhibition or suppression of allergic responses.

David P. Nicholson.


A polyarthritis, somewhat similar clinically and pathologically to human rheumatoid arthritis, may be produced in mice, cattle, sheep, rats, and goats, by the intravenous or peritoneal injection of strains of pleuro-pneumonia-like organisms. This experimental arthritis responds to gold salts.

These organisms may be obtained from men and women suffering from gonorrhoea, and from women with non-specific cervicitis and trichomonas vaginitis. The presence of these organisms is sometimes associated with polyarthritis, and significant agglutination titres have been obtained from patients with Reiter's syndrome and with rheumatoid arthritis.

In these experiments the L4 strain was used, cultivated on yeast extract tryptose base, enriched with 10% serum or 30% asctic fluid. Films were made by Gram's method, re-staining with Hucker's-gentian violet.

When organisms of the twenty-eighth in vitro passage were used, intra-peritoneal injection of young rats gave rise to joint swellings. The maximum number showed joint swellings on the sixteenth day, and the progressive joint involvement continued at a high level until the seventh week. Organisms in pure culture could be recovered from material aspirated from the injected joints.

The administration of aurothioglucose in oil, 67 mg. per kilo, in a controlled series of rats, indicated that gold almost completely prevented the onset of the joint swellings.

David P. Nicholson.


Experiments were carried out on rats to determine the efficiency of BAL in counteracting the toxic effects of gold sodium thiosulphate and gold chloride. It was found that though BAL would protect the animals against the toxic effects of gold sodium thiosulphate, it had no such effect against the toxic action of gold chloride. Further experiments indicated that BAL promoted the urinary excretion of both compounds.

David P. Nicholson.


Ragan and Boots record experiments in which the administration to rats of BAL and gold salts was not followed by toxic effects. They then used BAL in the treatment of 5 patients suffering from dermatitis due to gold, and found in all 5 a significant excretion of gold in the urine coincident with the administration of BAL. In 4 patients in whom the dermatitis had existed for less than 4 months the pruritus ceased and the rash cleared up. In one patient with a rash for 3 months both pruritus and rash failed to respond to treatment. In 4 patients with rheumatoid arthritis symptoms were aggravated within a month of administration of BAL.

Favourable results are also reported by Cohen, Goldman, and Dubbs, who treated 5 cases of acute poisoning due to gold and one case of acute arsenical poisoning with intramuscular injections of BAL. Transient symptoms attributable to BAL were experienced in these cases, including a sense of warmth in the mouth, salivation, flushing of the face, conjunctival injection,

The authors treated 55 patients suffering from chronic inflammatory rheumatism with intramuscular injections of cupro-oxyquinoline sulphonate of methylamine; 30 were observed for about 2 years and 25 for one year. They now tend to use copper salts in cases of chronic progressive polyarthritis of less than one year's duration, cupro-allythiourea if intravenous injection is possible, and cupro-oxyquinoline sulphonate of methylamine if the veins are poor. They think that in more chronic cases gold should at first be given.

From the figures available the efficacy of copper in arthritis of infective origin cannot be assessed. Improvement does not take place as rapidly as after gold therapy. No serious complications occurred in the 55 patients; there were slight focal reactions in 2, and 3 developed skin reactions which might have been coincidental; in some cases transient indigestion was noted.

The authors conclude that the use of copper should be further investigated, and that gold and copper may prove to be complementary forms of treatment to be used alternately in the same patient. T. G. Reah.


Because salicylates are valuable symptomatically in polyarthritis and local infections sensitive to sulphonamides often cause a flare-up of the disease, the author investigated the effects of these drugs in chemical combination. A salicylic acid-azosulphapyridine compound ("salazopyrin") was found by fluorescence microscopy to be selectively absorbed by connective tissue and to be decomposed only slowly by the body. It is stated that acid salicylazo compounds have a good effect on the type of acute polyarthritis seen in recent years (contrasted with classical acute rheumatism) and are also valuable in chronic polyarthritis if continued for at least several months. A. M. M. Wilson.


The authors studied the effects of prolonged oral administration of penicillin in 6 cases of rheumatoid arthritis of adult type, 2 of juvenile type, and 2 of rheumatoid spondylitis (Marie-Strümpell). In one case of juvenile arthritis there was striking clinical improvement with a large fall in the erythrocyte sedimentation rate. One case of rheumatoid arthritis showed moderate improvement; in the rest the treatment failed. Nausea, mild diarrhœa, localized rash, and brown furry discoloration of the tongue were observed as toxic reactions. [No conclusions can be drawn from this small series.]


The 103 patients in this study, of whom 59 had rheumatoid arthritis, 29 had rheumatoid spondylitis, 7 had a combination of rheumatoid spondylitis and rheumatoid arthritis, and 8 had gonorrhoeal arthritis, received fever therapy, the general body temperature being raised to 101°F. by means of a hypertherm cabinet. The total number of sessions of low-grade fever therapy was 1,936. All the patients were given other forms of physiotherapy on the days on which they did not receive fever therapy. In the cases of rheumatoid arthritis and rheumatoid arthritis and spondylitis received gold in the form of gold sodium thiomolate—5 mg. twice weekly intramuscularly on the same day as, but before, the patient received fever therapy.

In this study 90% of the patients with rheumatoid arthritis showed a remission or an improvement, this being roughly in accord with the findings of others. In the rheumatoid-spondylitis group 82% manifested a remission or an improvement, and in the group with combined rheumatoid arthritis and rheumatoid spondylitis 71.5% showed a remission or improvement, the remissions being far fewer in this group. Of the patients with gonorrhoeal arthritis 100% had remissions, all but one of these being of the disease.

It is considered that the fever therapy in combination with the gold "has definite merit in that the marked increase in blood flow and capillary dilatation afford a better distribution of the injected gold salts and aid in the prevention of untoward reactions." M. B. Ray.


Adult patients who were being treated for arthritis were studied during various types of fever treatments—cabinet fever, hot reclining baths, or typhoid vaccine administered intravenously. Tables summarize the data in 15 patients in whom a temperature of 101°F. was induced by tub baths at temperatures several degrees above that of the body for a period of about half an hour. All showed increase in blood flow. The heart rate increased, but the effects on blood pressure were variable. The data on the effect of hot humid air show that after the elevation of fever a considerable increase in blood flow took place. Changes in blood pressure were variable. After intravenous typhoid vaccine the changes in circulation were: during the prodromal phase there was slight cutaneous pallor with reduction of blood flow, which became maximal at the peak of the "chill phase"; soon after the chill there was general flushing of the skin and the blood flow increased above the control level; this lasted through the period of defervescence. These prodromal symptoms and chills characterized the fever induced by intravenous typhoid vaccine but were absent when fever was induced by physical methods.


The authors treated 27 patients with chronic arthritis on the assumption that disorders of vascular tone play a significant part and that procedures calculated to cause peripheral vasodilatation are likely to benefit. All cases were chronic, and 22 were of clear rheumatoid arthritis. "Spinal pumping" (Speransky's method) was carried out in 11 patients. Three patients with rheumatoid arthritis were treated with recurrent pyrexia, induced by a combination of intravenous typhoid vaccine and autohaemotherapy twice weekly for 3 weeks. A combination...
of "spinal pumping" and typhoid vaccine-autohaemotherapy was the treatment in 17 cases.

The authors now use a combination of "spinal pumping" and typhoid vaccine-autohaemotherapy; this is supplemented by nicotinic acid orally twice daily in doses sufficient to induce peripheral flushing, by physiotherapy, and by high-protein diets with intravenous plasma or protein hydrolysate in the more debilitated patients. They have had uniformly disappointing results with gold and prostigmine.

There is little objective evidence in the paper to convince the sceptical reader that comparable long-term results might not have been obtained with physiotherapy alone.

A. R. Kelsall.


The authors describe the case of a woman treated for arthritis with large doses of vitamin D for 34 years with resulting toxic manifestations. The arthritis was of a deforming type involving shoulders, elbows, knees, and lumbar spine. It was radiological evidence of demineralization of the pelvis. The daily dose of vitamin D had been approximately 200,000 units for the first year, 150,000 units for the second, 100,000 units for the third, and 50,000 units for the remaining 6 months. The patient started to develop pain in the left sacro-iliac region and down the left sciatic nerve after three years' treatment. She then lost 20 lb. in weight. Calcium-containing deposits were found in the conjunctiva. On the nasal and temporal sides of each cornea in the fissural zone were areas of opacity, shown by the slit-lamp to be in the superficial part of the cornea between epithelium and the anterior stroma. The lens contained spicules in the cortical area. There was radiological evidence of calcification of blood vessels posterior to the femur, but no structural abnormality of the kidneys.

There was moderate anaemia. Blood urea nitrogen was 28 mg per 100 ml., serum calcium 12.8 mg per 100 ml., and serum alkaline phosphate 5.5 units. Phenolsulphonphthalein excretion was only 20% in 45 minutes. "Neo-iopax" excretion was reduced in both kidneys. Calcium balance was negative whether calcium intake was high or low. Other serum electrolyte levels were within normal limits. The persistent hypercalcemia and depressed renal function are attributed to the prolonged unsupervised administration of vitamin D. Reference is made to 2 similar cases previously reported, and warning is given against prolonged uncontrolled use of vitamin D for arthritis.

C. L. Cope.


Twelve patients with rheumatoid arthritis were treated with aluminium salts for one to two years. No appreciable improvement in subjective and objective signs of activity occurred, nor was the course of the disease significantly influenced in 11 of the 12 patients. Recalcification of the osteoporotic bones did not appear in the radiographs of 8 patients with active rheumatoid arthritis and of 3 inactive cases. In 1 case of inactive rheumatoid arthritis there were suggestive signs of slight recalcification. Repeated estimations of the blood calcium and phosphorus before and during treatment revealed no significant alterations. Aluminium subacetate demonstrated no significant therapeutic value in these patients.—(From the Authors' summary.)


The authors record the results of streptococcal agglutination tests in a series of cases. They find less difference than that so far recorded in the percentage of positive reactions between the several forms of arthritis and other disorders which they studied. Thus in rheumatoid arthritis 47.4% were positive to a titre of 1 in 150 or more; in spondylitis 33%; in indeterminate polyarthritis 31.7%; and in a miscellaneous group of disorders 12.6%. They did not find any difference in thermolability between agglutinins in rheumatoid arthritis and in streptococcal infection. Kenneth Stone.


The results of treatment of arthritis by transplantation of diseased periarticular tissue are discussed.

Of the 12 patients on whom operation was performed, 11 had rheumatoid arthritis and 1 chronic gouty arthritis. The transplant was a piece of capsule obtained during synovectomy of the knee; it was placed into the subcutaneous tissue of the abdominal wall. In one instance the transplant necrosed and there was no change in the patient's condition; in the other 11 there was decrease in pain and in swelling of the joint and an increase in mobility within a few days. The patients were followed up for 9 to 17 months. In 7 instances clinical improvement had been maintained, though in 5 the erythrocyte sedimentation rate, which had gone down after operation, had returned to the pre-operation level. Improvement was pronounced in the one case of gouty arthritis.

H. A. Burt.


This is a rare localization of rheumatoid arthritis, characterized by spontaneous pain in the epigastric angle, increased by movements, which mobilizes the xiphoid appendix, such as deep inspiration, cough, and sneezing. The cartilage is tender on palpation and very painful on pressure. This condition is easily confused with other affections producing epigastric pain, such as neuralgia of the seventh and eighth intercostal nerves, and duodenal ulcer. Two cases are described. In one the xiphoid lesion appeared in the course of rheumatoid polyarthritis in a woman with psoriasis, in the other it appeared as an exacerbation of mono-arthritis of the knee-joint in a man with a family history of gonor rhoea.

A. Likier.

(Osteo-arthritis)


Over 100 patients with Heberden's nodes were observed, 5 being described in detail. The chief points
of interest are as follows. The condition may start with
formation of fluctuant myxomatous swellings which
sometimes precede radiological changes; the latter
may develop rapidly, though this is unusual. Peri-
articular soft tissues, tendonous attachments, and
subchondral marrow spaces are involved as well as the
joint, cartilage, and bone. Radiological changes
consist of enlargement of the bone ends, loss of joint
space, and bony spurs. Spurs develop from the attach-
ment of the flexor and extensor tendons to the distal
phalanges, and when large simulate in appearance a
ball-and-socket joint. Spur formation is best seen in
lateral views. If only postero-anterior views are taken
the spurs may not be observed. The distal ends of the
middle phalanges undergo marked change of bony
structure which gives rise to a foamy appearance. Of
patients with Heberden’s nodes of the distal inter-
phalangeal joints 40% have also degenerative disease
of the proximal interphalangeal joints. It is a common
mistake to regard every patient with enlargement of
the latter joints as suffering from rheumatoid arthritis.
Heberden’s nodes tend to be associated with degenerative
joint disease elsewhere. [The illustrations in this article
are good.]
H. A. Burt.

(Spondylitis)

Ankylosing Spondylitis. LENNON, W., and CHALMERS,

An account of 32 cases of ankylosing spondylitis is
given. The frequency with which the diagnosis is missed
and the importance of investigations in cases of recurrent
or persistent backache in young males are emphasized.
H. F. Turney.


This article is a general review of ankylosing spondylitis,
it symptoms, course, pathology, and treatment. It
concords in general with accepted ideas, and nothing
original is presented.

Rheumatoid Spondylitis. Its Early Diagnosis and Treat-
ment. REES, S. E., ALBERS, E. A., and NICHOLS, G. B.

This paper deals with the diagnosis and treatment of
150 cases of ankylosing spondylitis sent to an x-ray
therapy department. All the patients were civilians and
were referred by a single general practitioner over a
period of 3 years, 99 being women. X-ray therapy was
employed in every instance. If the condition was not
acute the patients were given small doses by a wide-field
technique twice weekly for 6 to 8 weeks. In acute cases
localized areas were treated, two larger doses (140 r to
each of three regions) being given on alternate days and
repeated in 6 weeks. Some 120 patients improved with
deep x-rays, and of these 25 relapsed in 6 months. There
was a decrease of 1,000 or more white cells per c.mm.
after treatment in three-quarters of the cases. No
mention is made of menstrual disorders following
radiotherapy.
H. A. Burt.

Paraplegia Due to Tuberculous Spondylitis. (Les para-
plégies au cours de la spondylite tuberculeuse.) DE

This paper reports results in the treatment of 25
patients with spinal tuberculosis and paraplegia in the
Rollier institution at Leysin. Thirteen were “cured”;
in 8 either signs of spasticity were lessened or the patient
had not been observed long enough for the result to be
considered final. Of the 4 patients who did not benefit,
2 left hospital too early, 1 died shortly after admission from
secondary infection and extensive bedsores, and the
fourth died of miliary tuberculosis. Treatment was on
the lines laid down by Rollier—with prolonged exposure
to sun assisted by immobilization, if possible in the prone
position, for sufficiently long periods and rehabilitation
during treatment. Aspiration of abscesses and operation
were avoided; plaster beds and casts are con

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produce radiological and histological changes in the proximal femoral epiphysis similar to those seen in human Perthes' diseases and coxa vara. He would assign a larger part in their pathogenesis to trauma than is generally conceded, and sees in similar processes in man one important likely cause of osteo-arthritis of the hip.

[This well-written paper rests on two assumptions which the abstracter has come to doubt: (1) that histology can be relied on in the search for pathogenesis; (2) that findings in animals—in this type of work—can be assumed to correspond to findings in human pathology.]

L. Michaelis.

Osgood-Schlatter's Disease. HUGHES, E. S. R. (1948).

The radiological appearances in 17 cases of Osgood-Schlatter's disease (3 bilateral) are recorded, with x-ray reproductions. The condition is considered to be due to a pathological change in the ligamentum patellae rather than in the apophysis. The condition occurs when osteoblastic activity is at its maximum, with a slightly earlier incidence in girls than boys. Trauma is regarded as the cause, and the disease is considered to be analogous to myositis ossificans at the elbow and to a 'tendinitis' rather than an 'epiphysitis'.

Eugénie L. Willis.


Seven cases of Reiter's disease are reported. Diarrhoea preceded the attack by 3 to 4 weeks, but at that time bacteriological examination of the stools could not be carried out. In 2 patients sero-agglutination with Shigella dysenteriae flexner gave titres of 1 in 200 to 1 in 400. Bacteriological examinations of conjunctival and urethral secretions were negative. Lymphogranuloma venereum was excluded by the Frei test. The syndrome is considered to be either an allergic or paralergic reaction after bacillary infection of the intestines with later participation of the other organs. Urticaria, leucopenia with a shift to the left, local eosinophilia in conjunctival and urethral secretions, or general eosinophilia, which were observed in some of the cases, were thought to confirm the allergic aetiology. The arthritis was severe, chronic, and refractory to the administration of massive doses of salicylates or cinchophen. Fever therapy (milk or sulphur injections), autohaemothery, calcium and ephedrine injections, glucose, and locally zinc sulphate or adrenaline, proved effective.

G. W. Csonka.


The authors describe 9 cases of Reiter's syndrome. No connexion with dysentery was apparent. In 4 of the patients there was no goorrhoea, but in the other 5 goorrhoea preceded the condition. The knee-joint was affected in all cases, the interphalangeal or metacarpophalangeal being the next most commonly affected joints. A rash was noted in 2 patients and hyperkeratosis of the feet in 3. Two patients (both had had goorrhoea) developed balanitis with ulceration of the glans. It was thought that intravenous T.A.B. vaccine was of benefit in some of the patients.


One hundred surgical cases of low back pain subjected to operation and 77 medical cases with a similar clinical picture, all examined by myelography, form the basis of the observations. It is shown that low back pain may be caused by a prolapsed disk alone and that stimulation of the prolapsed disk under local analgesia reproduces the low back pain. The prolapse could be made to fluctuate in size by weight-bearing and by hypertension of the spine. It is therefore presumed that low back pain is due to involvement of the sympyerteveral nerve which supplies the posterior ligaments and related structures, and that the spinal rigidity and sclerosis are produced by reflex muscle spasm as a protective mechanism.

Sciatica was shown to occur only when the site of disk prolapse is such that the disk impinges upon the fifth lumbar or first sacral roots in their extrathecal course; these roots then become occluded and hydrodynamically shortened. The root is pulled tight against the prolapse, longitudinal, compressive, and particularly angulation strains being thus caused. This causes a sensation of pain, while slight blocking of conductivity through the compression results in associated muscular, sensory, and reflex changes. The spontaneous remission of symptoms observed in sciatica can result from a resolution of the neural changes without associated resolution of the disk prolapse. Myelography repeated after spontaneous recovery from symptoms (confirmed by operation in one case) usually showed that the disk prolapse had persisted apparently unchanged. Straight leg-raising was found to be restricted when the root lying over the prolapse became taut and spasm of the hamstrings resulted; this restriction could be abolished by procaine infiltration of the root at operation under local analgesia, as also could the sciatic pain and the pain induced by applying pressure stimulation to the exposed roots. Antecedent trauma was found in only 44 out of 100 cases, showing that degeneration due to premature senescent changes is the principal factor in the production of the prolapse.

A. M. Stewart-Wallace.


On the basis of the possibility that some of the pain fibres in cases of herniated disc follow sympathetic pathways, 18 cases in which findings were compatible with the diagnosis of herniation of the nucleus pulposus were used in this study. The results suggest that in certain cases of herniation of the nucleus pulposus afferent fibres following the course of the sciatic nerve, and thence through the paravertebral sympathetic ganglia, function as pathways of pain. Possibly, too, the sympathetic fibres which are closely associated with the intervertebral disk carry impulses of pain. These fibres could be irritated by stretching of the covering of the disk and thus produce backache, but it is difficult to visualize their extension along the course of the entire sciatic nerve, which is frequently tender on palpation.

R. M. Stewart.

A technique was devised for removing diseased intervertebral disks in the lumbar region through an anterior tranperitoneal approach. The objects are: (1) Removal of the entire diseased disk with the cartilaginous end-plates of the adjacent vertebrae. (2) Wedging open of the disk space with an ox-bone implant to maintain a normal interval between the vertebral body and the dura mater to prevent any bony fusion obtaining. The following advantages are listed for the author's method: (a) Exposure of the entire disk space and cartilaginous end-plates. (b) Possibility of dealing with third, fourth, and fifth lumbar disks through the same incision. (c) Easier removal of the entire disk substance. (d) Easier control of hemorrhage, which does not occur in the spinal canal; no retraction of cord or nerve roots is necessary. (e) Prevention of narrowing of the disk space by the bone implant. Meticulous care must be used to exclude other diseases and intraspinal lesions, since exploration of the spinal canal and cord is not possible by this method.

The operative procedure is described. It was used in 36 cases of herniated intervertebral disk; postoperative complications occurred in 5 patients, and there were no deaths. Survey revealed that 6 patients had no symptoms; in 27 the condition was improved and in 2 unchanged; 14 patients resumed light or regular work.


Five patients were operated on for disk protrusions under local analgesia in and a lateral position. It was shown that when the hip of the straightened leg was flexed the nerve roots and dural sac were pulled caudally and that pressure on the nerve root exerted by the protruding disk was increased when the nerve root was stretched. Lasègue's sign became negative immediately the nerve root involved was anaesthetized with procaine, showing that the sign is neural in origin and produced by purely mechanical factors.

Non-articular Rheumatism


In the two cases reported, study of sections of the swelling removed revealed the formation of fibrous tissue surrounding areas of haemorrhage or a blood cyst. The fibrous tissue was permeated with blood pigment, haemosiderin, and this had even spread into the tendon in one case. It is suggested that the recurring oedema may be accounted for by reflex dilatation of the vessels of the dorsum of the hand as described by Leriche.


Predisposing factors, symptoms, and treatment of lesions of the long head of the biceps brachii are described.


The author describes 75 cases of polyneuritis observed in the winter of 1944-5. The patients were mainly middle-aged men in very poor circumstances who were addicted to alcohol and other intoxicants. The greatest case incidence was during and just after a period of nation-wide prohibition of alcohol (November, 1944). There was a rapidly developing symmetrical distal paralysis affecting the limbs (the legs earlier and more than the arms) but sparing the trunk and cranial nerves. Only the ankle-jerks were regularly lost and the sensory and autonomic disturbances were mild. Recovery took months and in the severe cases was only partial. Strychnine and perhaps vitamin B1 injections appeared to accelerate recovery in the milder cases. The cause was not certainly determined, but the clinical features were typical of Jamaica-ginger paralysis—that is, poisoning with triorthocresylphosphate, which was probably present in some of the intoxicants. This chemical was imported into Finland only during 1943; the cases began to appear in the middle of 1944 and there has been none since March, 1945. A. M. M. Wilson.


A series of 140 cases of Sydenham's chorea in New York is reviewed. The ratio of girls to boys was 1:5:1, and of white to negro patients 2:34:1. Most of the patients were between 7 and 14 years. The majority developed chorea in the first 8 months of the year. There was a great fall in the number of cases admitted in the last 5 years; the authors explain this as being due to better general improvement in living standards and prophylactic care. Two or more attacks occurred in 35-1%, negroes having fewer recurrences than white children; 23-4% had a history of rheumatic fever, and 17-1% a family history of rheumatism. Some cardiac abnormality was present in 81, but only 40 of these were shown to be organic; 50-45% had some other manifestations of rheumatism. Hemicorea was found in 7 cases, 6 being left-sided; 2 of these had a history of head injury. The best therapeutic results were obtained with pyridoxin; in two-thirds of the cases treated with this drug the condition cleared up in less than a month. The authors state, however, that the numbers are not big enough to warrant generalizations. There was no evidence that the incidence of chorea was diminished by removal of tonsils. J. G. Jamieson.


Four cases of chorea were treated with from 20,000 to 30,000 units of penicillin daily till a total of 1-5 mega units had been given. Choreic movements ceased and the patients were apparently cured. G. M. Findlay.

General Pathological Articles


The effects of sodium salicylate, acetylsalicylic acid, and heparin on the activity of hyaluronic acid in decreasing
the viscosity of solutions of potassium hyaluronate were compared. Inhibition by salicylate or acetylsalicylate occurs only in enormous concentrations (5% and 0.5-3.5% respectively), and is due to lowering of pH or increase in salt concentration. Heparin is completely inhibitory in a concentration of 0.0066%.

Guerra (J. Pharmacol., 1946, 87, 193) described inhibition by salicylates of spreading due to hyaluronidase in rabbits and in human beings suffering from rheumatic fever. In human beings there were violent reactions with widespread oedema; Guerra concluded that hyaluronidase played an important part in the pathogenesis of rheumatic fever and that the anti-rheumatic effect of salicylates could be explained by their inhibition of the enzyme. The present author concludes from the experiments described in this and the preceding paper that Guerra’s hyaluronidase preparations contained histamine, and that salicylates inhibited the histamine effect. Since streptococci of the type believed to be responsible for rheumatic fever are producers of hyaluronidase, the author suggests that sensitivity to hyaluronidase may commonly occur in rheumatic fever. Hechter (J. exp. Med., 1947, 85, 77) has shown that the spreading activity of hyaluronidase depends on the interstitial fluid pressure; if the latter is increased, or if the capillary permeability is produced by histamine, a substance known to play a part in hypersensitivity reactions, the results of Guerra can be explained as due to inhibition of the histamine effect. G. Discombe.

Other General Articles


Hexoestrol or stilboestrol was given in 205 cases of osteo-arthritis; in 60%, some improvement, generally transient, was evident. Hexoestrol 5 mg. or stilboestrol 3 to 4 mg. was given by mouth daily for 10 days with intervals of rest of from 1 to 3 weeks. Stilboestrol 5 mg. daily was also given intramuscularly. Diethylstilboestrol, hexoestrol, progesterone, and testosterone were administered without effect by intramuscular implantation in 47 cases of progressive polyarthritis. Twelve cases of ankylosing spondylitis were also treated; 5 patients improved but the period of observation was short. T. G. Reah.


Rheumatic patients were treated by implantation of pellets each containing oestradiol 25 mg., or progesterone 50 or 100 mg. or testosterone 100 mg. The females were at or past the menopause, and 100 mg. of oestradiol was implanted if the uterus was absent and a maximum of 25 mg. oestradiol and 100 mg. progesterone if the uterus was present. Those suffering from paraesthesiae received oestradiol, with or without progesterone, and the results were satisfactory; the symptoms disappeared but in some cases uterine haemorrhage occurred. Patients with osteo-arthritis improved, and in half the cases there was improvement of function and disappearance of pain. The results in rheumatoid arthritis were less certain. In two cases there was improvement after oestradiol implantation and intolerance to gold disappeared; 2 others also seemed to benefit. Six cases of cervico-brachial neuralgia did not improve. There were about 60 implantations of testosterone, usually 600 to 800 mg., in men suffering from osteo-arthritis mainly between 60 and 70 years of age. In 80% the general condition improved but the joint lesions were unchanged.

T. G. Reah.


The authors gave sodium salicylate to 40 rheumatic patients and to 30 non-rheumatic convalescents; they studied toxic manifestations in relation to plasma salicylate levels. With progressively increasing levels the following were noted: erythema, tinnitus, deafness, nausea, vomiting, albuminuria, hyperventilation, marked sweating, headache, vertigo, severe drowsiness, ascet-nuria, haematuria, confusion, excitement, euphoria, pulmonary oedema, severe dyspnnea, and haemorrhage. They were serious signs not associated with a salicylate level of more than 35 mg. per 100 ml.

The authors describe human and animal experiments, from which they conclude that vomiting due to salicylate is of central origin; that hyperpnoea is directly caused by salicylate; that the fall of carbon-dioxide combining power is a secondary effect; and that the vagal endings are the sites of the hyperventilation. (The evidence for this last conclusion is unsatisfactory. We are not informed which of the manifestations arose in rheumatic patients and which in controls. It is therefore not possible to conclude which were indeed due to salicylate and which were not, especially since many of them might have arisen in untreated rheumatic fever. It is also essential to know whether or not the patient with pulmonary oedema had been given salicylate in intravenous fluid.) G. Loewi.


The authors investigated the properties of "myanesin". They claim that a 2% solution of the drug in normal saline has numerous advantages over the 10% solution in propylene glycol and alcohol used in previous work. The only disadvantage of the former lies in its bulk, and for this reason the solution is administered by slow intravenous drip, the rate being adjusted by noting the appearance in the patient of horizontal, rotary, and then true vertical nystagmus as plasma concentration rises.

In a large series of patients 50 to 150 ml. of the 2% solution was given with a wide margin of safety. No respiratory depression was noted; there were no cardiac effects and no drastic fall in blood pressure. Phlebitis did not occur, although the same vessels were repeatedly used for injection. On the other hand, inco-ordination, dizziness, and blurring of vision often retarded resumption of normal activity for a little time after administration of the drug. The chief sites of action seem to lie in the spinal cord and brain stem, but at certain concentrations the drug has a hypnotic effect and at others it is an effective local analgesic. Its efficiency in ameliorating inflammatory movement, rigidity, spasticity, and Parkinsonian tremor is of higher order than that of curare. At high concentrations, the drug has a quinidine-like
action and may produce haemolysis, but the margin of safety is comparatively wide.

In acute "low-back" pain, myanesin instantaneously relieved acute muscle spasm. In patients with acute anterior poliomyelitis reduction of muscle spasm did not relieve the pain or increase the range of limb movement, rather suggesting that pain here is due to stretching of spinal elements and that muscle spasm represents a protective splintering. Unfortunately, the evanescent nature of the effects of the drug makes it more of a laboratory tool than a therapeutic agent, but it may be of some clinical value for the treatment of reversible muscle spasm, and as an aid in manipulation of painful contractures and dislocations and in the proper evaluation of muscle deformity and contractures.  

Glossopharyngeal Neuralgia. A Cause of Cardiac Arrest.  

In a case of glossopharyngeal neuralgia severe attacks of pain were associated with cardiac arrest and syncope. Section of the ninth nerve intracranially abolished both the pain and the associated cardiovascular disturbances.  
R. T. Grant.

NISSEN, K. I. (1948).  
J. Bone Jt Surg., 30B, 84.

Plantar digital neuritis was first shown by Betts to be associated with a local nodular enlargement of the digital nerve to the cleft between the third and fourth toes just proximal to its division. The author records 35 operations (8 bilateral), in 27 patients. There was pain in the sole in the region of the third and fourth metatarsal heads, or in the third or fourth toes, or at both sites; occasionally it was also referred to the second or fifth digits. Physical signs included local tenderness in all cases, occasional anaesthesia in the cleft between the third and fourth toes, and palpable swelling in 1 case. Operation was performed through a longitudinal plantar incision, and the whole nerve, with any communicating twig from the lateral plantar nerve and the vascular bundle, was removed. Complete relief was obtained in almost every case, and the scar gave no trouble. Histological examination showed that the intense fibrosis and demyelination in the nerve were secondary to a primary degenerative and thrombotic change in the digital artery. While this was presumably due to the repeated trauma of weight-bearing, it is difficult to see why one particular cleft should be affected.  
A. David Le Vay.

Pain Sensibility in Deep Somatic Structures.  

The authors consider that the different types of pain produced from the skin and from the stimulation of deep somatic structures can be satisfactorily explained by the difference in the arrangement of the nerve terminals in these structures, and that Lewis's postulate of two separate pain-conducting systems of nerves is not necessary.  
J. W. Aldren Turner.

Effect of Ischemia on Painful Joints.  
Acta psychiatr., Kbh., Suppl. 46, 166.

It was decided to try the effect of ischaemia in reducing pain and tenderness in peripheral joints, thereby allowing greater movement. Five patients with early arthritis and periartthritis of the fingers were studied. A blood pressure cuff was inflated above the systolic level and maintained for 20 to 25 minutes; during this time the joints were rested. When the ischaemia was interrupted there was a strong reactive hyperaemia associated with paraesthesia lasting about 10 minutes. At the same time there was a marked reduction in tenderness and an increase in the range of movement. Not more than 15 treatments on alternate days should be given.  
David P. Nicholson.

Titles of other articles in the Current Literature

Vertebral Rheumatism. (Rhumatism vertébral.)  

Ankylosing Spondylitis and Acute Rheumatism. (Spondylarthritis ankylosante et maladie de Bouillaud.)  

Ankylosing Spondylitis and Tuberculosis. (Spondylarthrite ankylosante et tuberculose.)  
Rev. Rhum., 15, 137.

Ankylosing Spondylitis of Traumatic Origin. (Spondylarthrite ankylosante de l'origine traumatique.)  
GRABER-DUVERNAY, J. (1948).  

Destructive Menopausal Osteochondritis. (Osteochondrite destructrice climacterica.)  
VANDENBERGHE, V. (1948).  
Acta clin. belg., 3, 276.

[In English.]  
Acta med. scand., Suppl. 213, 315.

Decalcifying Diffuse Myelomatisosis. (Sur la myelomatose decalcifiante diffuse.)  
Rev. Rhum., 15, 221.

Treatment of Chronic Arthropathies with Organ Lysete (La terapia con lisati di organo nelle artrite croniche.)  
Policlinico, sez. prat., 55, 1077.

Employment of Parapants in Rheumatic Joint Disease.  
V. YEMPENDING TOJ (Die Verwendung von Parapants bei rheumatischen Gelenkkrankungen.)  
Schweiz. med. Wschr., 78, 962.

Introduction to the Pathological Physiology of Joints. (Introduction à la physiopathologie articulaire.)  

The Concept, Therapeutic Problems, and Other Clinical Features of Some Rheumatic Affections of the Shoulder.  
[El concepto, los problemas terapéuticos y otros aspectos clínicos de algunos reumatismos de hombro.]  

Amer. J. Roentgen., 60, 225.


HEBERDEN SOCIETY

The Annual General Meeting of the Hberden Society was held at the Royal Society of Tropical Medicine, London, on Saturday, Oct. 16, 1948. After election of officers and of ordinary members (as reported in the previous issue of this Journal) the Society unanimously elected to Honorary Membership Professor Sir Lionel Whitby, C.V.O., M.C., who had given the Hberden “Round” at Cambridge in 1948. Dr. Copeman then presented the Society with a framed mezzotint by Ward of the portrait of William Hberden painted by Sir William Beechy and now in the Royal College of Physicians; he was thanked by the President on behalf of the Society.

Then followed a discussion on “The Metabolism of Hyaluronic Acid in relation to Rheumatic Diseases”, opened by Professor Henry Cohen and Professor C. Rimington (for the opening papers see pages 31 and 34 of this issue). Dr. J. H. Humphrey and Dr. H. J. Rogers, who had been invited to contribute to the discussion from the standpoint of their own original work in this field, then followed. (A brief account of Dr. Humphrey’s and Dr. Rogers’s remarks is appended.) After a discussion the meeting closed with a vote of thanks to the various speakers.

On the previous evening, with the President, Mr. S. L. Higgs, in the Chair, Dr. Philip Hench of the Mayo Clinic (an Honorary Corresponding Member of the Society) delivered the Hberden Oration on a subject for which he was awarded the Hberden Medal in 1942, “The Potential Reversibility of Rheumatoid Arthritis.” (It is hoped to publish this paper in full in a later issue of this journal.)

Following a warm vote of thanks, the meeting adjourned to a reception at Claridges’ Hotel where Dr. and Mrs. Hench were the Guests of Honour.

HYALURONIDASE

J. H. HUMPHREY

Having at one time worked on hyaluronic acid and hyaluronidase, and being now engaged on rheumatic fever, I have always hoped that the two lines of research would meet. However, I am far from convinced that this has yet occurred and I propose to emphasize the need for caution which Professor Cohen showed in his paper. Most preparations of hyaluronidase used in testing the effect of salicylates and the effect on sedimentation rate in rheumatic fever have been partly purified testis extracts. Such extracts contain not only enzymes which depolymerize and then further break up hyaluronic acid, but also enzymes which split chondroitin sulphuric acid, mucopolysaccharic acid, and possibly other substances. If streptococcal hyaluronidase, which is much more specific, is used in vitro attempts to lower the sedimentation rate of specimens of blood taken from patients with rheumatic fever, the