Journal summary

LEADER

Mechanical stimulus to bone p 4
The mechanical stimuli to bone act as a powerful means of modelling it and this relation has been known for at least a century. A tennis player's arm will gain mass in relation to the deforming strains put upon it. Conversely, if this strain is largely removed, as in astronauts, osteopenia will result. How this happens is of course a matter of considerable practical interest.

SCIENTIFIC PAPERS

DNA damage and rheumatoid arthritis p 8
Immune dysfunction, linked to lymphocytic DNA metabolism, leads to DNA damage and cell malfunction. This can be measured as strand breaks, and here was done by assessing the amount of DNA unwinding seen. This was significantly increased in rheumatoid arthritis, reflecting the impaired immune response: perhaps treatment can be devised to limit DNA damage.

Activated polymorphs and rheumatoid arthritis p 13
Polymorphonuclear leucocytes seem to be activated in rheumatoid arthritis, which is not seen in normal subjects. But is this real or an artefact? Real it would appear, though the degree of clinical inflammatory activity present was not related to these activated polymorphs. Disease modifying drug treatment alters this response.

A new autoantigen in rheumatoid arthritis p 19
Neutrophil activating peptide/interleukin 8 may be a mediator of inflammatory diseases such as rheumatoid arthritis. In a study reported from Vienna though levels of the interleukin itself were largely undetectable in serum, nevertheless circulating antibodies to interleukin 8 showed a strong correlation with the activity of the disease. This may be a useful new marker of disease activity.

HLA-D antigens and severity of rheumatoid arthritis p 23
Investigation of the genetic basis of rheumatoid arthritis has shown a significant association with the class II D region genes as is well known. Data reported from Canada, however, suggest that the HLA-D region genes seen in mild rheumatoid arthritis may be different from those seen in the more severe forms.

Paf-acether in the arthritides p 29
Paf-acether is a phospholipid mediator seen in many inflammatory diseases and it has several pathobiological effects. Its precursor lipo-paf was found in higher concentrations in blood and synovial fluids in rheumatoid arthritis than in osteoarthritis, chondrocalcinosis, or controls, but paf itself was seen only in its lowest levels in rheumatoid arthritis. Lipo-paf may be the important form here, therefore.

Rifampicin and early rheumatoid arthritis p 32
Because so many of the drugs used to combat rheumatoid arthritis are toxic we are always glad to hear of a new and potentially useful treatment and earlier reports that rifampicin was a likely addition to the choice available was good news. Further studies, however, suggest that response to rifampicin is disappointing: it appears to work mainly in very early disease.

Muscle strength and rheumatoid arthritis p 35
Impaired muscle function is common in rheumatoid arthritis and this Swedish study showed that rheumatoid patients had significantly reduced strength in both the hip and the knee muscles as shown by isometric and isokinetic tests. Clearly it is important to include muscle training in rehabilitation programmes for patients with this disease.

Idiopathic myositis p 41
Idiopathic myositis is not common but it has a high morbidity and a significant death rate. Modern treatment can modify this but diagnosis may be a problem as not all patients have a raised creatine kinase or a positive muscle biopsy. Two of the 25 patients reported on had malignant disease and a long term follow up of these patients is essential.

The immunology of childhood onset systemic lupus erythematosus p 45
A three year immunological follow up of children with systemic lupus erythematosus showed that complement C3 was lower when the disease was active and T helper/inducer cell activity was impaired, among other abnormalities. The best predictor for activity of the disease was, however, the level of antibody to dsDNA.

HLA, mixed connective tissue disease, and systemic lupus erythematosus p 52
It has been suggested that mixed connective tissue disease is a distinct entity and investigation of the associated HLA antigens in this disorder compared with systemic lupus erythematosus did indeed show significant differences, implying that the genetic background was not the same. The frequency too of DR4 was much greater than in controls.

Systemic lupus erythematosus and peripheral vascular disease p 56
There are several reasons why patients with systemic lupus erythematosus develop peripheral vascular disease and we need to know in what way patients who get it differ from patients who do not. The risk factors seem to be a disease duration of longer and longer treatment with corticosteroids.

Systemic lupus erythematosus and antibodies to histones p 61
Antibodies to histones are commonly seen in systemic lupus erythematosus but hitherto we have been unclear about their clinical or laboratory associations. They proved to be few; the strongest was between IgG antibodies to total core histones and antibodies to native DNA, and there was a weaker association with periods of activity of the disease.

Acute phase proteins, the monocyte, and systemic lupus erythematosus and rheumatoid arthritis p 67
In the acute phase response seen in inflammatory disease the concentration of the acute phase proteins rises with qualitative changes in them. Monocytes derived from patients with systemic lupus erythematosus and rheumatoid arthritis differ between the two in their ability to induce these alterations and ex vivo they act differently also. Interleukin 6 seems to be an important regulator of the glycosylation pattern of the acute phase proteins.

Psoriatic arthritis and the cervical spine p 73
Two patterns of disease were seen: erosive and sometimes subluxing cervical rheumatoid-like lesions, or a pattern similar to that found in ankylosing spondylitis, though they were HLA-B27 negative. Cord compression was fortunately not noted. Various predictors of inflammatory cervical spine lesions were identified.

The environment, articular disease, HLA-B27, and psoriatic arthritis p 78
It has been suggested before that environmental factors may influence the onset of arthritis in patients with psoriasis. This paper found evidence that a preceding disorder, such as an operation or a myocardial infarct, among other events, is associated with the development of the arthritis. There did not appear to be any association, however, with the presence of the HLA-B27 phenotype.

The osteoarthritic knee joint and its radiology p 80
Radiographic definition of osteoarthritis of the knee joint is unsatisfactory, and previous attempts have been found wanting. This study tries to devise a better means of identifying criteria to do this. No doubt it will stimulate argument, but the exercise needs to be done.

Ankylosing spondylitis and immune complexes p 83
Epidemiological evidence suggests that environmental factors help to cause ankylosing spondylitis and, in particular, an infectious agent has been blamed. This paper does not suggest that immune complexes play much of a part, however, nor does it find much evidence for the participation of klebsiella antigens.

Joint hypermobility and the temporomandibular joint in the adolescent p 87
Significant hypermobility of the joints is commoner in girls than boys, as this report confirms. The syndrome is often overlooked too. Where it is present the incidence of internal derangement of the temporomandibular joint is higher.

Rats and experimental yersinia induced arthritis p 91
Nearly half the rats injected with live *Yersinia enterocolitica* developed arthritis and the affected joints showed a non-suppurative synovitis. This cleared up in most within four weeks, though it was prolonged in a few. This proved to be a suitable model for reactive arthritis and incidentally provided evidence that poor elimination of the organism was associated with the development of the arthritis.

The pathogenesis of yersinia reactive arthritis p 97
We know that erythrocytes are important for the elimination of immune complexes, and most human CR1 in peripheral circulation occurs on them. Patients with yersinia triggered reactive arthritis had reduced levels of CR1 but this seemed due mainly to the fact that most HLA-B27 negative patients with arthritis had decreased activity of CR1.

Creatinine and uric acid excretion p 101
Hyperuricaemia is caused by accelerated uric acid synthesis or impaired renal excretion of uric acid, or both. It is interesting to see the relation between creatinine and uric acid excretion therefore. In gout both are increased and there seems to be a close correlation between creatinine and uric acid synthesis.

Thermography, isotope bone scanning, and tennis elbow p 103
Tennis elbow is common and both infrared thermography

and isotope bone scanning show abnormalities in it. Comparison of the two methods shows that bone scanning is the less sensitive of the two. There seem to be several reasons for this.

Fibromyalgia and sleep apnoea p 108
The cause of the fibromyalgia syndrome is obscure and this study suggested that sleep disorders may lead to it as sleep abnormalities are often noted in association with it. There does not seem to be much evidence for such an association.

Gold inflammation and mice p 112
The effect of gold salts on inflammation induced in mice by the injection of carrageenan into an air pouch was studied. There seemed to be no direct correlation between gold concentration in the inflamed tissue and the suppression of that inflammation. This suggests, therefore, that gold probably acts directly on the circulating neutrophils.

CASE REPORTS

Organic brain syndrome in systemic lupus erythematosus p 117
An elderly woman presented with a psychosis and what appeared to be a transverse myelopathy. This is of course rare but, fortunately, she responded to treatment with corticosteroids.

Tricuspid stenosis and systemic lupus erythematosus p 120
Involvement of this valve has not been reported previously in systemic lupus erythematosus. A young woman with systemic lupus erythematosus and severe right ventricular heart failure was found to have tricuspid stenosis and mitral regurgitation. Both valves were replaced and she did well.

IgA deficiency, glomerulonephritis, and arthritis p 123
Selective IgA deficiency is common but it is sometimes associated with connective tissue disease, as in this example. The poor woman instanced here developed oligoarthritis and glomerulonephritis. She was seropositive for rheumatoid factor, and histological examination of the kidney suggested that the glomerulonephritis was mediated by immune complexes.

RAPID REPORT

The rheumatoid mononuclear cell and gut mucosa p 126
Seronegative arthritis and chronic inflammatory bowel disease have a well known association and it is postulated that there may be an abnormal trafficking of cells in this condition and in rheumatoid arthritis. Mononuclear cells from paired blood and synovial fluid in patients with rheumatoid arthritis were studied and there was evidence that some lymphocytes derived from mucosa migrate to joints.

NOW AND THEN

Cod liver oil and osteoarthritis p 128
The authors investigated whether cod liver oil used as an adjunct to non-steroidal drug treatment in the management of osteoarthritis was useful. Cod liver oil contains eicosapentaenoic acid, which has been previously reported as being effective in the alleviation of symptoms in rheumatoid arthritis, so it is possible that it has a beneficial effect. Sadly, this does not seem to be the case.

REVIEWS

Osteoporosis—who should take the responsibility for it?

p 130

Osteoporosis is a major cause of disability in the elderly so we need to make up our minds who should take responsibility for it. At present this falls rather uneasily to several disciplines and all too often it goes unrecognised. Much is known about it, but even more needs to be unravelled.

Psychopathology and systemic lupus erythematosus

p 134

Undoubtedly, psychopathological problems exist with systemic lupus erythematosus, but how much can be directly attributed to the disease, and how much to other coincident causes? What this short review identifies is that

there needs to be development of better methodologically sound means of investigating psychopathology in systemic lupus erythematosus.

HYPOTHESIS

Slow viruses and the immune syndrome in Sjögren's syndrome

p 136

Primary Sjögren's syndrome is a systemic autoimmune disease and there have been many suggestions as to its aetiology. This hypothesis explores the possibility that interplay between slow viruses in the epithelial cells of the exocrine glands and the immune system is related to the cause.

EDITOR