dose ratio of 200:1, and a pronounced histamine response in a dose ratio less than 200:1. These results reflect the presence in the synovial microvasculature of H_2 receptors which may be involved in the control of peripheral blood vessels.

Discussion

DR. M. I. V. JAYSON (Bristol) With respect to the particular experiments in which you studied the effects of histamine after metiamide, in several of them the half-life of the xenon within the joint was considerably lower than normal before injection of the histamine. In these particular cases, may it not be a bit much to expect a further shortening of the half-life and increased clearance by the histamine so that the lack of histamine response at these concentration ratios of 500:1 and 1,000:1 may not indicate a specific blocking effect?

DR. GRENNAN In the first slide we tried to show the effects of metiamide alone on xenon clearance and we thought there was no significant response to metiamide given alone. If you are referring to the fact that at the 1,000 μ g dose of metiamide the mean value of the baseline clearances pre-histamine appears slower, then I must point out that at this supra-blocking dose we have only done 3 experiments which are weighted by one disproportionately slow clearance of 150. There is a considerable individual variation in the xenon clearance from individual joints but it has been shown that the method does provide acceptable repeatability on the same joint with repeated xenon clearances.

DR. A. BENNETT (London) Your results show that H_2 receptors are present only if the antagonism is selective. Did you determine its effect on responses to other substances such as isoprenaline?

DR. GRENNAN Yes. We have shown that as regards α and β sympathetic stimulation in the doses of sympathetic agents that we have used there has been no cross-over antagonism.

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Tissue Gold Levels After Chrysotherapy. By R. GRAHAME, R. BILLINGS, M. LAURENCE, V. MARKS, and P. J. WOOD (*Guy's Arthritis Research Unit, and Department of Biochemistry, University of Surrey*) *Annals*, 33, 536.

A Biographical Sketch of George Frederick Still. By E. B. D. HAMILTON, *Kings College Hospital, London*

HL-A Antigen W27 in Juvenile Chronic Polyarthritis. By J. EDMONDS, A. METZGER, P. TERASAKI, R. BLUESTONE, B. ANSELL, and E. G. L. BYWATERS (*M.R.C. Rheumatism Unit Taplow, and University of California, Los Angeles*)

The long-term follow-up of children suffering from chronic polyarthritis suggests that while the majority remain seronegative with the disease tending to remit, some develop ankylosing spondylitis and others a sacroiliitis consistent with ankylosing spondylitis; among those

with sacroiliitis and ankylosing spondylitis, acute iridocyclitis is not uncommon. A small group have pauciarticular involvement with chronic iridocyclitis and a positive antinuclear factor; a few develop psoriasis and some have a pattern of illness similar to adult rheumatoid arthritis.

Ninety per cent. of Caucasian patients with ankylosing spondylitis have been shown to be of the tissue type HL-A W27 compared with 8% of controls ($P = 0.0001$) (Schlosstein and others, 1973), thus suggesting this tissue type is a marker for ankylosing spondylitis. We have, therefore, investigated the HL-A phenotype frequencies in forty-nine patients with juvenile chronic polyarthritis who were attending our follow-up clinic. The shortest duration of follow-up was eight years and the longest thirty-three years, with the majority just over fifteen years. All showed some clinical residua; when no sacroiliac film was available, a pelvic film was obtained at the same time as the blood sample. In seven, a diagnosis of ankylosing spondylitis as a sequel to their Still's disease has been made, six of these were of the HL-A W27 type; the eight who had sacroiliitis of ankylosing spondylitis type, irrespective of the presence or absence of activity of their peripheral arthritis, all belonged to the HL-A W27 group. Of the twenty-one seronegative Still's, three belonged to this phenotype, but their present pelvic films show no evidence of sacroiliitis. Eleven had seropositive juvenile rheumatoid arthritis; none of these had the HL-A W27 antigen. There was no case of psoriasis in this study (Brewerton and others, 1973).

It therefore appears that the presence of HL-A W27 in juveniles suffering from polyarthritis may be a valuable marker in characterizing the type of disease present in a particular patient. It should certainly alert the clinician to the high probability of the later development of sacroiliitis and probably also of spondylitis.

Discussion

DR. D. A. BREWERTON (London) The third group with peripheral arthropathy and no sacroiliitis is going to be a problem in classification. It has its equivalent in adults. As yet, we do not know how many adults with HL-A 27 have seronegative peripheral arthropathy, but the rigid definition that sacroiliitis must be present to diagnose ankylosing spondylitis-like disease is no longer tenable. At the Royal National Orthopaedic Hospital it is a regular problem to us that orthopaedic surgeons see children, particularly boys in the 8-15 age range, with mild conditions such as tenosynovitis or a swollen ankle with a normal ESR who later develop ankylosing spondylitis. In this group it is of considerable diagnostic help to determine the HL-A antigens.

DR. EDMONDS It does seem that HL-A cannot be used as a specific marker for the presence of sacroiliitis or spondylitis.

DR. R. M. MASON (London) Did you survey your patients for urethritis?

DR. EDMONDS No.

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