Assessment of the Anti-inflammatory Effect of Intra-articular Steroids by means of External Temperature Measurements. By F. LLOYD WILLIAMS, F. J. RING, and J. COSH (*Bath*)

The cooling effect of steroids injected into the knee in patients with rheumatoid arthritis was studied by a simple technique of external temperature measurement. A radiometer, sensitive to radiant heat emitted from the skin, was used to measure the temperature of an area of skin over the front of the knee. Further information was obtained by following the rate of re-warming of the skin after cooling the knee with an ice-pack.

These readings were compared with direct measurements of intra-articular temperature, with thermograms, and with studies of clearance rates of radioactive isotopes injected into the joint.

Discussion

DR. D. N. GOLDING (*Harlow*) It has been suggested that in psoriatic knee joints there is a larger rise of temperature, and it has even been suggested that the pattern of the thermogram in psoriatic arthritis is different. Have you any explanation of this?

DR. COSH No, we have not. We have done a number of thermograms of rheumatoid disease and there were some psoriatics among them.

DR. H. L. F. CURREY (*London*) I believe that steroids applied locally to the skin produce a local vasoconstrictor effect. Have you any information about the effect of topical steroids on the local circulation in the synovium? Do you think the drugs have a pharmacological vasoconstrictor effect locally in the joint? If so, do you think this contributes in any part to their activity when given into inflamed joints?

DR. COSH If they do have such a vasoconstrictor effect, it is likely to be short-lived. I think this is more likely to be due to a pharmacological effect on inflammation rather than purely on the blood vessels.

Observations *in vivo* on the Tensile Properties of Human Skin. By R. GRAHAME, R. BLUESTONE, and P. J. L. HOLT (*London*)

A simple suction-cup device suitable for clinical use has been adapted to measure the tensile properties of skin *in vivo*. Stress/strain curves were constructed and variations in their relationship in normal skin, acromegaly, scleroderma, and other diseases observed. The information derived from this test has been used to follow the course of these diseases and the response to treatment.

Clinical Meeting, September, 1969

At a meeting held at the Littlewood Hall, General Infirmary, Leeds, on September 26, 1969, the following papers were given:

Relationship of Infection to Rheumatoid Factor in the Population. By J. S. LAWRENCE (*Manchester*)

Persons having positive tests for rheumatoid factors in population samples in Leigh and Wensleydale have been investigated for evidence of infections. Routine x rays were taken of the nasal sinuses and lungs, the forced expiratory volume was estimated, and cultures were made of throat swabs and midstream specimens of urine. Antistreptolysin-O, salmonella, and brucellar antibodies were estimated in the serum. There was a significant association between the results of the sheep cell agglutination test and the occurrence of sinusitis, pulmonary fibrosis, urinary infection, and salmonella and brucellar antibodies.

Discussion

DR. HOLT (*London*) Have you completely ruled out the question of age? Rheumatoid factor becomes more prevalent in the older person.

DR. LAWRENCE We corrected the figures for age distribution by taking 10-year age groups, but the relationship between rheumatoid factor and lung infection still remained significant. The other infections were studied in age-matched groups.

DR. BALL (*Manchester*) I examined about thirty cases of chronic fibroid tuberculosis, and at that time the prevalence of sero-positivity was about 3 per cent., which was about the expected prevalence in the general population and hence did not suggest an association of rheumatoid factor with tuberculous infection.

DR. LAWRENCE We did not find any association with active tuberculosis. There was only one case of active tuberculosis in the whole series. This is an association with healed tuberculosis. You may say that perhaps the condition healed because the patients had rheumatoid factor which protected them in some way, and it would be difficult to argue against this. I should have thought it more likely that the tuberculosis not only stimulated the rheumatoid factor but was also perhaps reduced in severity and therefore able to heal because of this.

DR. BUCHANAN (*Glasgow*) Could you please tell me, Dr. Lawrence, how consistent are weakly positive tests for rheumatoid factor? I also wonder whether you have considered examining patients with positive tests for rheumatoid factor for evidence of Sjögren's syndrome?

DR. LAWRENCE We did not specifically look for Sjögren's syndrome, and I cannot say how far transient tests are concerned. Dr. Ball estimated the rheumatoid factor during this survey in addition to his tests 5 years previously, and we found that those who had recovered, in whom the titres had become negative, had nevertheless an association with these diseases.