The measurement of the tensile strength of the wounds is done by a Sandberg apparatus. It has prongs on either side and you just pull it apart, the tension being increased at a regular rate until the wound gives. It has quite a sharp endpoint which seems to be reproducible in an animal. In other words, the three duplicate wounds give similar results. If there had been a technical failure it would be expected to give a low result, so we took the two highest readings for tensile strength in both the control and the treated animals.

DR. B. MCCONKEY (Birmingham) What was the histological evidence that the normal skin was affected in the animals treated with Arvin? I am not sure if Dr. Holt mentioned the stain. Would he like to comment on this and the implications of the different staining characteristics?

DR. HOLT The stains were Van Gieson and Martius scarlet blue. I think the significance of the staining reactions is doubtful, and I attach no importance to them. The fibre sizes, I think, are definite. If my photography was good enough, I should have liked to show the polarized light slides which show the fibres very nicely indeed—the quite different size of the collagen fibres in the two groups in the normal skin. The normal skin shows two other characteristics which I have not illustrated: one is that the dermis is about two-thirds as thick in the treated animals as in the controls; the other is an abnormal regrowth of hair. This looks like hair of a newborn rabbit (say in the first 2 months of life), and is more fluffy than that of an older animal.

DR. A. S. RUSSELL (Taplow) From what Dr. Holt was saying about the antibody response to administered Arvin in the course of time, it seems to me that this is an elegant model of complex-induced disease, particularly at the equilibrium point. Did he notice any arteritis in the superficial vessels which might have some relevance, and did he notice whether defibrination had any effect on the development of fibrin deposits in the afferent arterioles of the kidney?

DR. HOLT There is a fibrin deposit, but it is very little and unlikely to cause trouble in the period during which one is able to give Arvin. As to whether these animals had any disease, all I can say is that I produced some hyperimmune animals for another purpose and they have all died. The *post mortem* examinations have shown nothing specific, but we are doing a chronic toxicity study on this basis. It seems unlikely that we shall evolve an immune complex disease because the amount of protein we are using is so small, a microgramme is one unit and to defibrinogenate an animal intravenously we usually use one unit per kg.—a minute amount. For persistent defibrinogenation we use something like 5 units daily intravenously or about 10 units twice daily intramuscularly, but these are still minute amounts of protein. Furthermore, no fall in complement has been shown.

References

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Effect of Arvin on Experimental Immune Arthritis in Rabbits. By P. M. FORD, F. W. S. WEBB, R. H. BLUESTONE, J. M. GUMPFL, AND W. R. BELL (*Department of Medicine, Royal Postgraduate Medical School*)

A component of the inflammatory exudate had been suggested as the significant factor in the production and perpetuation of chronic immune arthritis in rabbits (Phillips, Kaklamanis, and Glynn, 1966). Fibrin has been strongly considered for this role.

Using Arvin (an extract of the venom of the Malayan pit viper) to reduce the amount of fibrin available for deposition in the region of the initial inflammatory reactions, we have sought to determine whether the subsequent arthritis could be modified in either severity or chronicity. Arvin acts by precipitating fibrinogen in the blood in the form of microclots and fibrin split products.

Intravenous Arvin was administered immediately before the introduction of antigen into the knees of previously immunized rabbits. Defibrinogenation was maintained for varying periods up to one month, the animals being killed at the end of the course of treatment.

Frequent measurements of joint diameter and histological examination after death showed essentially no difference between treated and control groups.

It is concluded, therefore, that, in this experimental model of immune arthritis in rabbits, Arvin has no effect on either the severity of the lesion or the establishment of the chronic inflammatory state.

Discussion

DR. P. A. BACON (London) Did the authors skin-test their animals? Suppression or diminution of both Arthus and delayed skin-reactivity has been observed using Heparin and it would be interesting to know whether this occurred with Arvin.

DR. FORD The animals were skin-tested only before intraarticular injection and not at the end of the Arvin treatment.

DR. B. MCCONKEY (Birmingham) Did the fibrinogen response to the injection in the untreated animals show a great variation or was it about the same magnitude for the same sized insult?

DR. FORD In the untreated control animals the mean fibrinogen level rose to 800 mg. per cent. and in fact all four animals showed a large rise to between 700 and 900 mg. per cent.

Reference

- PHILLIPS, J. M., KAKLAMANIS, P., AND GLYNN, L. E. (1966) *Ann. rheum. Dis.*, 25, 165.
see also FORD, P. M., BELL, W. R., BLUESTONE, R., GUMPFL, J. M., AND WEBB, F. W. S. (1970) *Brit. J. exp. Path.*, 51, 81.

Comparison of a New Latex Slide Test with the Sensitized Sheep Cell Test. By C. J. EASTMOND, D. PHILLIPS, and W. R. M. ALEXANDER (*The Rheumatic Diseases Unit, Northern General Hospital, Edinburgh*)

A new commercial slide test for rheumatoid factor was compared with the standard sheep cell test (SSCT) used in this unit. Two series of tests were made by two individuals: one amateur (CJE) and one professional (DP).