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Local Sensitiveness of Tuberculous Guinea Pigs Against Egg White Similar to Arthus Phenomenon.

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Further experience with the local sensitiveness produced with eggwhite in tuberculous guinea pigs[1] revealed that this sensitiveness shows characteristics very similar to the characteristics of the Arthus phenomenon of rabbits, and it differs in essential characteristics from the tuberculin sensitiveness. The most important differences are:

1. The presence of precipitins in the blood serum. Although there is not a strict parallelism present between the hypersensitiveness and precipitins (we found a few exceptions to the rule) yet we were not able to separate them regularly.
2. The hypersensitive animals are not killed through the subcutaneous injection of quite large amounts of eggwhite although a very extensive necrosis develops on the site of the injection.
3. They are killed through the intravenous injection.

These differences are either the expression of a different physiological mechanism or they are the result of different properties of the antigens in the reaction. To examine the latter possibility we treated tuberculous guinea pigs with Ty bacilli and timothy pollen, supposing that their antigens are nearer the antigens of the tubercle bacilli than eggwhite. With Ty bacilli we were not able to obtain any hypersensitiveness. But as no increase of the agglutinins was present, compared with the controls, the conditions of the experiment were not optimal. With the timothy pollen in some cases we obtained pronounced hypersensitiveness in tuberculous animals, also increased precipitin formation, but as we obtained positive results in only a few cases we were not able to study the properties of this sensitiveness, so with this experiment we did not succeed in coming nearer to an understanding of the tuberculin sensitiveness.

This is a preliminary report.

[1] Dienes, L., and Schoenheit, E. W., PROC. SOC. EXP. BIOL. AND MED., 1926, xxiv, 32.