

## 8876 C

### Suitability of the Monkey (*Macacus rhesus*) as a Recipient for the Prausnitz Kustner Reaction.

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It has been shown that all guinea pigs injected with alum precipitated ragweed extract<sup>1</sup> developed an unusually high degree of sensitivity. Blood serum<sup>2</sup> drawn from guinea pigs so treated has been shown to specifically sensitize human skin sites in a manner comparable to the results obtained by the intradermal injection of human serum from a case of ragweed hay fever (Prausnitz Kustner Reaction).

With this observation (identity of antibody) it became increasingly desirable to determine whether any animal would give positive skin tests while in an anaphylactic state.

On previous occasions the intradermal injection of ragweed extract into actively sensitized guinea pigs and rabbits had always been negative with the guinea pigs and unconvincing in the rabbit.

In order to save the time required for active sensitization it was thought our objective—if it existed—might be accomplished more rapidly and easily by attempting to passively sensitize the skin by the intradermal injection of sera already proven to have skin sensitizing antibodies for human skin. The first animal tried in this plan was the monkey (*Macacus rhesus*).

TABLE I.

Prausnitz-Kustner Reactions with Monkey 49.

July 27, 1936—Sites injected with 0.05 cc. serum as noted below.

July 28, 1936—All sites injected with 0.05 cc. ragweed extract 2036 with reactions as noted below and as illustrated in photographs.

Left Side		Right Side	
Site	Degree of reaction in mm.	Site	Degree of reaction in mm.
1. G.P.S. 503	10 x 12	G.P.S. Nor.	Negative
2. Hu.S.Iv.	15 x 22	Hu.S. Nor.	"
	3. 0 control negative		

Abbreviations used:

G.P.S. 503—Blood serum from sensitized guinea pig No. 503.

G.P.S. Nor.— " " " normal guinea pig.

Hu.S.Iv.— " " " a case of human ragweed hay fever (Iv.).

Hu.S. Nor.— " " " normal human.

0 control—normal skin site.

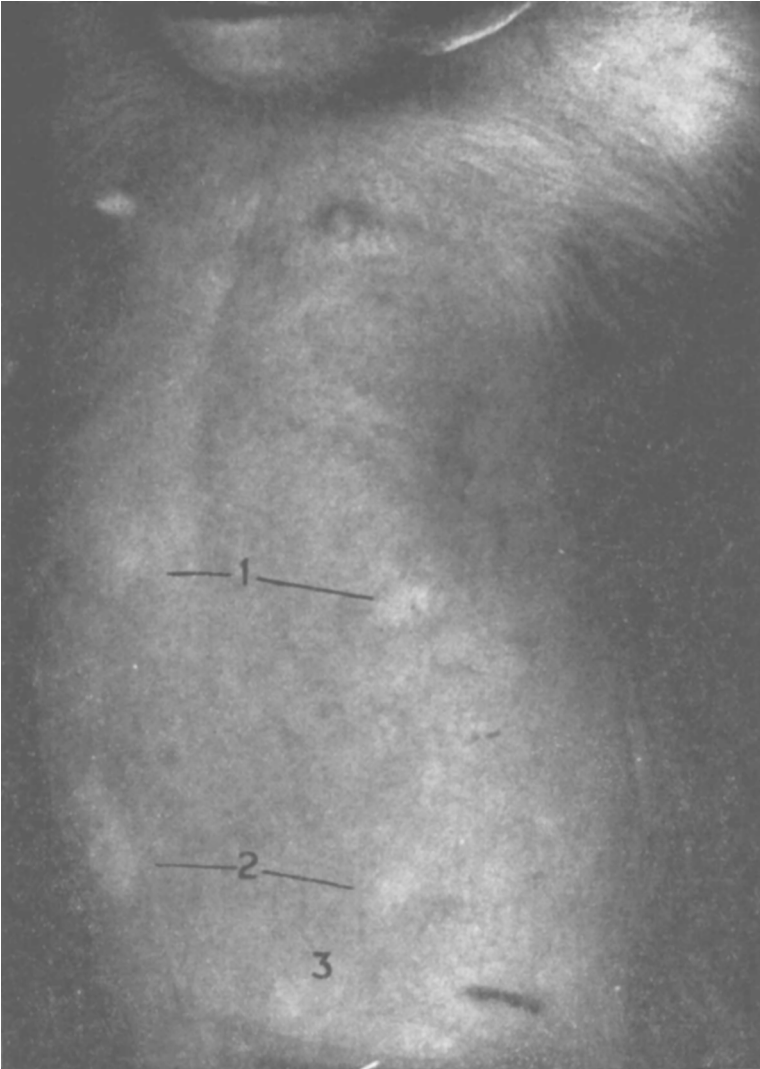
<sup>1</sup> Caulfeild, Brown and Waters, *J. Allergy*, 1936, **75**, 451.

<sup>2</sup> Caulfeild, Brown and Waters. In press.

Serum from sensitized guinea pig 503 was used in this experimental trial. With this serum we had been successful in sensitizing human skin sites, the full details of which were given previously.<sup>2</sup> The human serum (Iv) from a case of ragweed hay fever had been used for Prausnitz Kustner reactions many times previously. It was known to have a high titre.

The results are shown in Table I and in the accompanying pho-





tographs.\* The reaction obtained in both sensitized guinea pig and human serum sites is clear cut and positive whereas in both normal guinea pig and human serum sites there is no reaction. The normal skin site control is also clearly negative.

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\* The wheal of a positive reaction in the monkey is more difficult to reproduce in a photograph than the areola of a positive reaction in man. We took 2 on this account. In one of these the camera was focused on the 2 positive reactions (on the left); in the other the camera was focused on the negative and control sites (on the right).

These positive reactions in locally sensitized monkey skin sites differ from positive reactions in man as the recipient for the Prausnitz Kustner reaction. In man a positive result consists of a button-like wheal without pseudopods and a surrounding areola. In the monkey the wheal shows marked pseudopodia formation and no surrounding areola. Instead there is a vague blueish tinge about the wheal which photographs fail to record.

*Conclusion.* The skin of the monkey (*Macacus rhesus*) is suitable for local passive sensitization to ragweed pollen extract by the intradermal injection of either serum from a sensitized guinea pig or serum from a human case of ragweed hay fever.

### 8877 C

#### Vaso-Pressor Action of Extracts of Plasma of Normal Dogs and Dogs with Experimentally Produced Hypertension.

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Marked chronic hypertension may be produced in dogs by compressing the renal arteries by means of silver clamps until moderate ischemia occurs (Goldblatt, Lynch, Hanzal and Summerville<sup>1</sup>). Nervous impulses originating in the kidneys do not appear to participate in the genesis of this hypertension, for if the renal nerves are severed, clamping the renal artery is still effective in causing hypertension (Page<sup>2</sup>). It is not unreasonable, therefore, to suppose that a pressor substance is liberated by the kidneys as a result of ischemia which might be responsible for the hypertension. The object of this investigation is to ascertain, by means of a method with which we had previously had experience (Page<sup>3</sup>) whether this hypothesis could be supported with experimental evidence.

Carotid loops were prepared in dogs for measurement of arterial pressure by the Van Leersum method. After a control period of 2 months during which blood pressure was measured daily, silver clamps were placed on the renal arteries according to the method of Goldblatt, Lynch, Hanzal and Summerville.<sup>1</sup> Amytal injected intraperitoneally (60 mg. per kg.) was employed as anesthetic.

<sup>1</sup> Goldblatt, H., Lynch, J., Hanzal, R. F., and Summerville, *J. Exp. Med.*, 1934, **59**, 347.

<sup>2</sup> Page, I. H., *Am. J. Physiol.*, 1935, **112**, 166.

<sup>3</sup> Page, I. H., *J. Exp. Med.*, 1935, **61**, 67.