

5473

Studies on a Urinary Proteose. I. Skin Reactions and Therapeutic Response to Injections.**WARD DARLEY AND RICHARD WHITEHEAD.**

(Introduced by Robert C. Lewis.)

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Oriel and Barber¹ recently reported the recovery of a proteose from the urine excreted in anaphylactic and allergic conditions which gave positive intradermal reactions and which gave encouraging results when used for desensitization.

We have studied the proteose reactions in 34 cases from the medical wards of the Colorado General Hospital. The proteose was prepared according to the method of Oriel and Barber. We have found that no constant relationship can be shown to exist between the quantity of proteose obtained from the urine and the responsiveness to it on the part of the patient. A large quantity may give a negative reaction when tested intradermally; on the other hand, a small precipitate may give a marked reaction when similarly tested.

Nine cases of bronchial asthma were studied and these gave the most satisfactory results. Three of the patients were studied when asymptomatic and the intradermal tests were negative. Later 2 of these patients returned to the hospital with acute asthmatic paroxysms. Proteose was again prepared and positive skin tests were obtained. Two out of 4 cases reacted negatively to the usual routine sensitization tests, but reacted positively to their respective proteose preparations. Subcutaneous injections induced focal reactions in 4 instances. Desensitization with the proteose apparently resulted in improvement in 6 out of the 9 cases of asthma studied.

Because of the recent interest in arthritis from the allergic standpoint, the proteose sensitivity was investigated in various arthritic and allied conditions. Five patients with acute arthritis were studied. In 3 instances positive intradermal tests were obtained, but the therapeutic results were questionable. A positive test was obtained in one patient with acute subdeltoid bursitis. The initial subcutaneous therapeutic injection produced a marked focal reaction which was followed by improvement. Negative intradermal tests and therapeutic results were obtained in one case of

¹ Oriel and Barber, *Lancet*, 1930, p. 231.

gout, one of acute infectious arthritis, one of acute rheumatic fever, and ten of chronic arthritis.

Positive intradermal reactions were observed in 2 out of 3 cases of serum sickness. Negative results were obtained in one case of chronic generalized eczema, one of subsiding urticaria of unknown etiology, and one of erythema multiforme.

Preliminary work indicates that following the subcutaneous injection of this proteose there is a marked increase in the leucocytes of the blood with a corresponding increase in the percentage of eosinophiles.

Further work upon the therapeutic efficacy of desensitization with this urinary proteose and the blood picture following its subcutaneous injection is in progress.

5474

The Movement of Substances in the Cerebrospinal Fluid.

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(Introduced by Harvey Cushing.)

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The authors undertook to determine and collate the glucose tolerance curves in 2 loci in the cerebrospinal system and in the blood, in the hope not only of establishing the relations of the absolute sugar levels but also of obtaining data on the movement of the cerebrospinal fluid itself or of substances dissolved therein.

To determine the carbohydrate tolerance curves a healthy adult dog was used for each experiment. After 18 hours' fasting, anesthesia was induced by intraperitoneal injection of sodium amytal (Lilly). With full surgical asepsis both cerebral hemispheres were exposed by a midline trephine opening so that either lateral ventricle could be tapped with a specially made brain needle. A cisternal needle was then introduced into the *cisterna magna* and left there throughout the experiment. Since the latest modification of Folin's micro-sugar method,¹ using unlaked blood, was used, it was necessary to obtain from each locus only 0.1 cc. of fluid for each determination. After obtaining simultaneously one sample from each point, 20 gm. of glucose were given by vein. Every 15 minutes

¹ Folin-Svedberg, *J. Biol. Chem.*, 1930, **88**, 77.