

# SCIENTIFIC PROCEEDINGS.

ABSTRACTS OF COMMUNICATIONS.

**Sixty-second meeting.**

*New York Post-Graduate Medical School. President Lusk in the chair.*

21 (953)

**Serological analysis of a case of serum sickness in a human being.**

By **RICHARD WEIL.**

*[From the Department of Experimental Therapeutics, Cornell Medical College.]*

A case of meningococcus meningitis received 95 cubic centimeters of therapeutic serum derived from an immunized horse, intraspinally. On the eighth day, the patient developed serum sickness, characterized by fever and a rash. These symptoms lasted one week. On the day following the subsidence of the serum sickness, blood was taken from this patient. This blood was shown to contain both antibody to horse serum, and remnants of horse serum itself, by the following procedures:

(a) Antibody to horse serum was demonstrated through the fact that the patient's serum passively sensitized guinea-pigs against horse serum, in amounts of 0.15 c.c.

(b) Horse serum was demonstrated through the fact that the patient's serum produced a sharp anaphylactic response in guinea-pigs passively sensitized against horse serum by the previous injection of the serum of a rabbit immunized against horse serum. This result is not produced by control human sera.

A second aspiration of this patient's blood made after the lapse of another week failed to demonstrate the presence of antibody; and of horse serum in very small amounts.

These results show that antigen persists in the human being after the serum sickness has subsided. This fact is in harmony with animal experiments. They show that anaphylactic antibody is formed as a feature of serum sickness.

The coëxistence of these factors in guinea-pigs similarly treated, I have demonstrated in previous experiments. Neither factor had as yet been demonstrated in human serum sickness. The facts indicate that the disease is due to the interaction of these factors, in accordance with an hypothesis suggested by Pirquet.

22 (954)

### Cellular processes in the latent period.

By RICHARD WEIL.

[From the Department of Experimental Therapeutics, Cornell Medical College.]

Guinea-pigs were passively sensitized by the injection of the serum of a rabbit highly immunized to horse serum. Before the latent period had expired, *i. e.*, during the first 12 hours, the guinea-pig was killed, and the horns of the uteri were suspended for graphic tracing. One horn was immediately tested by means of horse serum. If it gave no response, the preparation was at once thoroughly washed, and the experiment continued. Both horns were kept in Locke's fluid for several hours. At the end of this time, both were again tested against horse serum. Both regularly responded with contractions, but that yielded by the previously tested horn was much less vigorous than by the other. The latter fact shows that the preliminary test by horse serum had partially desensitized the antibodies.

The following conclusions are drawn:

1. The cells absorb antibody from the blood during the first stage of the latent period. These antibodies can unite with the antigen, and the cells can thus be desensitized, but that this reaction produces no cellular contraction in the sensitized muscle cells.

2. The cells "activate" the absorbed antibody during the