

ABSTRACTS OF COMMUNICATIONS.

Eleventh meeting.

*Western New York Branch.**Geneva, New York, April 5, 1924.*

208 (2440)

Effects of dosage and previous diet on blood sugar curves in sheep after intravenous administration of insulin.

By AARON BODANSKY (by invitation).

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Sheep do not show any convulsive symptoms or visible distress after intravenous administration of insulin even when the blood sugar is depressed to 30 mg. per 100 cc. It is possible that the convulsive level for sheep would be lower, but so far we have been unable to reach it. With increased dosage the effect is not so much upon the intensity as upon the duration of the hypoglycemia.

It has been shown¹ that recovery from the lowest sugar value begins immediately after it has been reached, if about 5 units per 100 pounds are injected intravenously.

When 10 units were administered, the hypoglycemia, at or near the lowest level, lasted about one hour. When 15 units were injected, the low level was maintained about two to three hours.

Thyroidectomized sheep have been reported² to show a similar flat bottom in their insulin blood sugar curves after the small dose (5 units) which failed to produce it in the normal animal. In the light of the evidence then available, it was suggested that this effect of thyroidectomy might be due to the lack of the thyroid secretion, assumed to aid normally in the control of the blood sugar through its effect upon glycogenolysis.

The standard conditions of the experiments included an inter-

¹ Bodansky, A., *PROC. SOC. EXP. BIOL. AND MED.*, 1923, xx, 538.

² Bodansky, A., *PROC. SOC. EXP. BIOL. AND MED.*, 1923, xxi, 46.

val of about eighteen hours between the last meal of the sheep and the beginning of each experiment.

This interval was varied and a longer fast was instituted. Under the changed conditions, the normal sheep showed a flat bottom in the insulin blood sugar curve after the administration of the standard dose.

On the other hand, when the thyroidectomized sheep were allowed free access to food during the night preceding the experiment, blood sugar curves were obtained indistinguishable from the curves of normal animals which had been given the same dose of insulin but had been submitted to the standard eighteen hours' fast.

Further observations are in progress—of the effect of dosage and of diet, and of the relative importance of the general cachectic factor and of the specific endocrine deficiency in the control of the blood sugar after insulin administration.

The insulin for these experiments has been obtained through the courtesy of Eli Lilly and Company.

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The influence of insulin on the liver glycogen of animals poisoned with phlorhizin.

By CARL F. CORI.

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It has been shown previously¹ that insulin produces a marked diminution in the sugar excretion of rabbits completely poisoned with phlorhizin, whereas the nitrogen excretion during an observation time of four hours is not appreciably diminished. It was concluded that insulin does not directly influence the sugar formation from proteins during phlorhizin poisoning. Since a rather large amount of sugar is retained when phlorhizinized

¹ Cori, C. F., *J. Pharmacol. and Exp. Therap.*, 1924, xxiii, 99.