Summary. The blood of dogs with thrombopenic purpura induced by antiplatelet serum shows a moderate decrease in blood viscosity (directly correlated with a decrease in total cell volume) and a transient increase in non-protein nitrogen. The venous pressure, plasma viscosity, total and specific colloid osmotic pressure and plasma proteins do not undergo significant changes.

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Hyperalimentation in Normal Animals Produced by Protamine Insulin.

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Beginning some years ago there were clinical reports[1-5] that undernourished, non-diabetic patients gained weight under the influence of insulin. The latter is regarded as stimulating the appetite, leading to a higher caloric intake of food. It is now used for this purpose by many although good proof that it is efficacious is still lacking. The reason for this is because of the many factors involved in such clinical observations. Experiments on animals have been disappointing, such as the negative results recorded for rabbits.[6] In experiments on normal rats carried out some seven years ago with ordinary insulin we were unable to influence either the food intake or body weight. In an attempt to duplicate experimentally with protamine insulin the occurrence of fatty livers, which has been attributed to chronic hypoglycemia in patients,[7] we were surprised by the marked influence on alimentation. A typical experiment is presented in Fig. 1. Each group of rats was composed of 3 adult males of about the same weight. They were on a diet supplied *ad lib.* and containing casein 25, starch 40, butter fat 15, lard 10, brewers yeast 5 and standard salt mixture 5. Protamine zinc insulin* was given subcutaneously in doses of 8 units (0.2 cc.) per

1 Bauer, R., and Nyiri, W., *Med. Klinik*, 1925, **21**, 1454.

2 Boekheler, T., *Munch. Med. Woch.*, 1926, **73**, 1921.

3 Haemmerli, A., *Schweiz. Med. Woch.*, 1926, **56**, 1095.

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5 Fonseca, F., *Arch. f. Verdauungs Krankheit.*, 1928, **42**, 362.

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* We are indebted to Eli Lilly & Company of Indianapolis for the supply of Protamine zinc insulin used in this investigation.

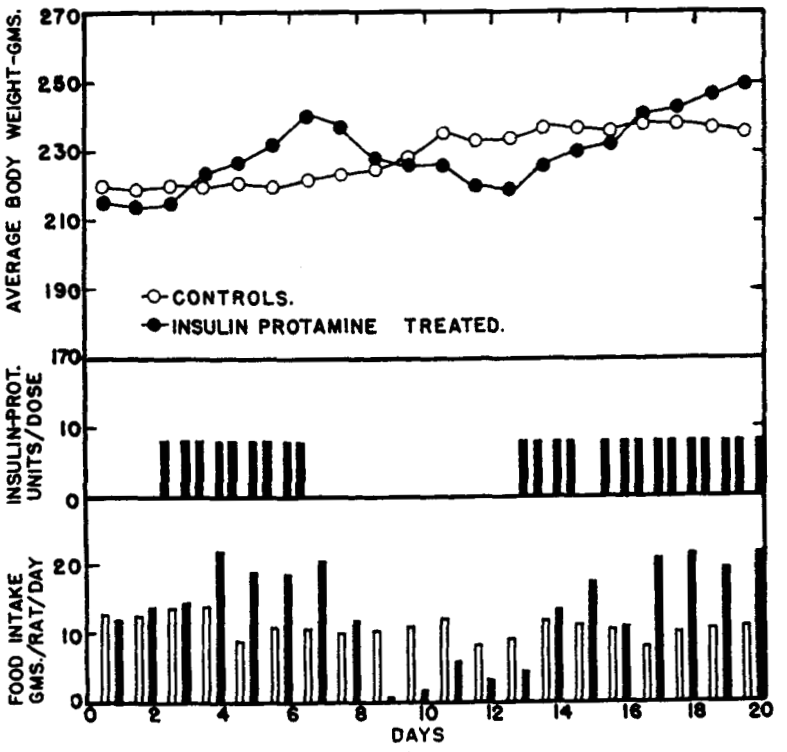

FIG. 1.

rat, twice a day as a rule. The increase in food intake is remarkable and there is a corresponding increase in body weight. When insulin injections are stopped the compensatory decrease in food intake is interesting. A food box was accidentally left out of the cage of one insulin-treated group for only 4 hours and all of the rats died in hypoglycemia before it was returned. Other details will be brought out in a later report. Our results suggest that whatever good results ordinary insulin may have in human undernutrition, the protamine compound will prove much better.