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Prevention of Liver Necrosis following Ligation of Hepatic Artery.

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In dogs, ligation of the hepatic artery is followed in approximately 100% of cases by death, as a result of a peculiar necrosis of the liver. In a series of experiments extending over many years we have tried to prevent this mishap by arterializing the blood flow of the portal vein. This year we appeared to be unusually successful, in that the animals survived such ligation. Examination at autopsy, however, always disclosed that the arterio-portal anastomosis was thrombosed, although the liver was grossly normal. During this year penicillin has been administered following the operations in one series of animals. Another series did not receive penicillin. The

wholly unexpected finding was made, that when dogs with totally ligated hepatic arteries are given massive doses of penicillin, intraperitoneally and intramuscularly for one week, they usually survive, whether or not the gall bladder has been removed. The latter becomes gangrenous, often ruptures, but even this occurrence is well tolerated by the animal unless generalized bile peritonitis develops.

It is suggested that the immediate life-saving function of the hepatic artery is to maintain oxygen tension at a level incompatible with the proliferation of anaerobes constantly present in hepatic tissue.

16908

Relationship of Blood Sugar and Hypoproteinemia to Antibody Response in Diabetics.*MICHAEL G. WOHL, S. O. WAIFE, STANLEY GREEN, AND GEORGE B. CLOUGH.
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Evidence has been presented that protein depleted animals as compared with normal controls possess little ability to manufacture antibodies. The poor antibody response in animals can be restored to normal by protein repletion.¹⁻³ We have reported on similar

studies in man, particularly in the hypoproteinemic patient as seen in a large general hospital.⁴

The purpose of this paper is to direct attention to the fact that the diabetic with such complications as gangrene, osteomyelitis, etc., has a diminished antibody production; this low antibody response to antigenic stimulation appears to bear relationship to the blood protein values rather than to the fasting blood sugar levels.

For this study a representative group of 64 diabetic patients attending the metabolic

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¹ Cannon, P. R., *J. Immunol.*, 1942, **44**, 107.

² Cannon, P. R., Chase, W. E., and Wissler, R. W., *J. Immunol.*, 1943, **47**, 133.

³ Wissler, R. T., Woolridge, R. L., Steffee, C. H., Jr., and Cannon, P. R., *J. Immunol.*, 1946, **52**, 267.

⁴ Wohl, M. G., Reinhold, J. G., Rose, S. B., Adams, L. A., Harvey, T., Francis, M., and Clough, G., *Arch. Int. Med.*, in press.