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Effect of Adrenalin and Pituitrin on the Volume of the Liver.

FRED R. GRIFFITH, JR., AND F. E. EMERY.

From the Department of Physiology, University of Buffalo, N. Y.

In view of the contradiction which exists in the literature in regard to the effects of adrenalin and pituitrin on the circulation in the liver, we have used the liver plethysmograph, which has been previously described,[1] in a new attack on this problem. The results will be very briefly described in this preliminary report without substantiation from actual records or attempt to cite the literature; these will appear in due time.

Cats and rabbits under chloralose anesthesia have been used in this work; the results are as follows:

I. Intravenous injections of adrenalin. 1. Pressor doses invariably produce constriction in the liver, whether introduced by way of the femoral, or portal veins, or hepatic artery, provided the general blood pressure is high and the animal in good condition. This constriction may last as long as the pressor response or it may at times give way to prompt and active dilation; when this latter occurs it may be abolished by section of the depressor nerves (rabbit). On the other hand, if the animal is in poor condition with low blood pressure the liver apparently dilates passively during the pressor response to an injection by way of the femoral vein. This is intensified by first clamping the hepatic artery, but is prevented altogether and even replaced by constriction if the portal vein has been previously clamped so as to restrict the volume changes in the liver to variations in its arterial blood supply; *i. e.,* the liver is forced to expand under these conditions and in spite of active vasoconstriction within itself, because of an engorgement through its massive portal supply. This in turn is probably due to an unusual movement of blood through the toneless(?) mesenteric capillaries as a result of the high general blood pressure.

[1] Griffith, York and Zachmys, PROC. SOC. EXP. BIOL. AND MED., 1928, xxv, 399.

2. When introduced by way of the hepatic artery or portal vein the dosage may be so adjusted as to produce vigorous constriction within the liver without having any effect on the general blood pressure.

3. Finally, very small doses by way of the femoral or portal veins may produce dilation of the liver with or without a fall in the general blood pressure.

II. Pituitrin, one-fifth cc. or more (Parke-Davis, obstetrical) produces about the same decrease in liver volume whether introduced by way of the femoral or portal veins or hepatic artery.

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Urobilinogen Concentration in Urine Specimens Containing Bilirubin.

CATHERINE B. ALLISON AND ROGER S. HUBBARD.

From the Clifton Springs Sanitarium and Clinic, Clifton Springs, N. Y.

Gmelin's test for bile pigments was carried out on all specimens of urine submitted to the laboratory during a period of a little more than 2 years. Approximately 50,000 specimens were examined during this time, and a positive test was obtained in 476 specimens from 308 subjects. Most of the patients treated in this institution are suffering from chronic diseases and are of fairly advanced age. Since daily specimens were obtained from diabetic patients and urine from those on the surgical service was examined routinely 3 times a week these 2 groups have an undue prominence in the series. The approximate concentration of urobilogen in the specimens giving a positive Gmelin test was determined by the method of Wallace and Diamond.[1] Normal urines show a positive test by this method when diluted 1 to 10 or 1 to 20 with water, but give no color when dilution is greater. In our series 142 specimens, or less than a third of the total, fell into this range. There were 54 specimens from 18 patients which gave a negative Wallace and Diamond reaction, and it seemed probable that these could be adequately explained by failure of bile to enter the intestine, as the diagnoses indicated the certainty or the possibility of the presence of lesions obstructing the bile ducts in most cases. Only 24 specimens from 22 patients showed a positive reaction which became negative when the urine

[1] Wallace and Diamond, *Arch. Int. Med.*, 1925, xxxv, 698.