

STUDIES IN LIVER FUNCTION*

A. M. CHESNEY, M.D.
E. K. MARSHALL, JR., PH.D.
AND
L. G. ROWNTREE, M.D.
BALTIMORE

In recognition of the need of better criteria for judging of the functional capacity of the liver in disease, this investigation was undertaken to determine (1) the degree and frequency with which functional changes can be demonstrated in anatomically diseased livers, (2) in what clinical types of liver injury the functional changes are most marked and (3) the diagnostic and prognostic value of these changes. In other words, an attempt has been made to regard the liver, in disease, from a physiologic point of view, and to study its various functions with the hope of ascertaining its behavior under pathologic conditions.

THE FUNCTION OF THE LIVER IN HEALTH

In health the liver has three well-established functions: 1. The glycogenic function, which has to do with carbohydrate metabolism, and consists in (*a*) the conversion of the monosaccharids (dextrose, levulose and galactose) into glycogen; (*b*) the temporary storage of that glycogen as such, and (*c*) the reconversion of it by enzyme activity into dextrose as needed in the body. 2. A participation in nitrogenous metabolism which consists in the conversion of certain nitrogenous bodies (ammonia, amino-acids, etc.), into urea. 3. The production of bile.

In addition, the liver apparently plays a part in the production of fibrinogen and antithrombin, although

* From the Medical Clinic of the Johns Hopkins Hospital, and from the Departments of Physiological Chemistry and Pharmacology of the Johns Hopkins University.

* Read before the Section on Practice of Medicine at the Sixty-Fifth Annual Session of the American Medical Association, Atlantic City, N. J., June, 1914.