

welcome and valuable aids to the practitioner. These newer laboratory methods, of course, can never replace accurate observation of the well-known physical signs of the condition, any more than Widal's test has replaced the employment of physical examination in the case of typhoid fever, but a knowledge of them is of the utmost importance when we have to deal with obscure and doubtful cases.

Before detailing some personal researches it will be well to review very briefly our present knowledge concerning the cerebro-spinal fluid in general paralysis, and this is best done, perhaps, by mentioning the various points in the chronological order of their discovery.

The first step in this connexion, and still one of the most important, was the discovery, made in 1900 by Ravault, Widal, and Sicard, that lymphocytosis in the cerebro-spinal fluid is one of the most constant accompaniments of both general paralysis and tabes. Many forms of cells are found, the most significant being large mononuclear lymphocytes and plasma cells. When in a non-febrile malady the lymphocytosis is very pronounced, then it may be regarded as practically pathognomonic of general paralysis. The cell increase is greater at the onset of the disease—a fact that obviously enhances its value in diagnosis.

A year later the discovery was made by Achard, Loefer, and Lanbry that considerable quantities of proteid are to be found in the cerebro-spinal fluid in general paralysis and, to a less extent, in tabes. As the present paper is chiefly concerned with this question, consideration of it may be conveniently postponed for the moment, and it will suffice here to mention the well-established facts that in normal cerebro-spinal fluid the quantity of proteid is minimal, that in the diseases in question the increase is mainly an increase in globulin, and that this increase is not always parallel with the degree of lymphocytosis, tending on the whole to develop later than this phenomenon.