

which such an examination is desirable, and even essential to complete the diagnosis.

*Lumbar Puncture*, by means of which the cerebro-spinal fluid is obtained, was introduced originally by Quinke<sup>1</sup> in 1891. In the early days following its introduction, the cerebro-spinal fluid was examined with a view more especially to the differential diagnosis of the various forms of acute meningitis, and it still finds one of its most helpful applications in these diseases.

By its aid the cellular and bacterial elements of the fluid are examined and valuable information is obtained as to the precise form of meningitis and the nature of the infective agent.

In cerebro-spinal meningitis, Weichselbaum demonstrated the meningo-coccus in connection with a large polymorpho-nuclear increase. In tuberculous meningitis Widal and others showed that mono-nuclear lymphocytes predominate, while in the purulent forms of acute meningitis the polymorpho-nuclear cells are increased, and cultivation reveals the presence of staphylo, strepto and pneumococci.

The presence, however, of polymorpho-nuclear cells should not be regarded as proving the existence of suppurative meningitis, as they may be found in brain abscess, suppurative labyrinthitis and sinus phlebitis, without any direct implication of the cerebral membranes.

The bacteriological examination of the fluid also is far-reaching, for the absence of bacilli in serous meningitis, cerebral tumor and hydrocephalus would serve to distinguish these conditions from meningitis, notwithstanding the similarity of symptoms in some cases.

At a later date the investigations of Widal<sup>2</sup>, Sicard and others of the French school, demonstrated the almost constant increase of the lymphocytes in certain chronic degenerative diseases of syphilitic origin, such as paralytic dementia and tabes dorsalis. According to Nouné<sup>3</sup>, a marked lymphocytosis is present in 100 per cent. of the former and 90 per cent. of the latter.

The constant increase of the lymphocyte count in these diseases, even in the early stages, was used as a means of diagnosis, when the usual clinical symptoms were not obtrusive. I have seen a few cases in which such an examination was necessary to establish a diagnosis, but in the majority, even in an early stage, some clinical signs will be found if carefully looked for.

The association of a slight increase in the lymphocyte count along with Argyll-Robertson pupils, (or loss of the pupillary light reaction), in a case presenting neurasthenic or other symptoms of