

SEXUALLY TRANSMITTED INFECTIONS, HIV/AIDS

MULTIFACTORIAL DISCRIMINANT ANALYSIS IN DIAGNOSIS OF NEUROSYPHILIS

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Introduction: In recent years there has been an increase in the incidence of neurosyphilis (NS) in Russia and in the capital of Russia, Moscow, often resulting in disability and death. In some cases, the methods of laboratory diagnosis of NS do not allow making a diagnosis of the disease, which necessitates the development of a new approach to diagnosis - multifactorial discriminant analysis (MDA).

Objective: to study the possibility of using MDA for the diagnosis of NS.

Materials and methods: The object of the study was samples of serum and cerebrospinal fluid (CSF), obtained from 91 patients with syphilis (secondary, early latent, late latent and unspecified) and neurosyphilis. To verify the diagnosis of NS, the samples were studied in a number of clinical, biochemical and immunochemical reactions (12 indicators in total including VDRL, determination of antibodies to T.pallidum antigens with molecular masses of 15, 17, 41 and 47 kD in immunochip format), as well as by processing the obtained results using the method of multifactorial discriminant analysis.

Results: Processing the results of laboratory studies of CSF using MDA significantly (up to 95 %) improves the accuracy of diagnosis of neurosyphilis, especially when obtaining discordant results of various methods of research of CSF, gives the opportunity to choose the tactics of patient management, including determining the amount of therapy and prognosis for patient life.

The values of discriminant functions and discriminant coefficients obtained on the basis of processing the results of the study of CSF in patients with neurosyphilis using the MDA method can be considered as a mathematical model for the diagnosis of neurosyphilis.

Conclusions: The high efficiency of using MDA in processing the results of the study of CSF samples in patients with suspected neurosyphilis allows us to recommend this method in the diagnosis of neurosyphilis.