Poster

Intrathecal secretion of immunoglobulin G in cerebrospinal fluid of patients with neurological pathologies: implication of the IgG band pattern in the development of various diseases of neurological origin

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ABSTRACT

Demyelinating inflammatory diseases are a heterogeneous group of pathologies which are associated with an acute or chronic inflammatory process in the central nervous system. Multiple sclerosis is the most common of this group of diseases and is diagnosed by clinical symptoms as well as by a positive result in the analysis of oligoclonal bands of Immunoglobulin G derived from an abnormal intrathecal secretion of IgG in the CSF. As part of its healthcare function, the Biobank carries out this paraclinical test for the diagnosis of MS in patients suspected of having this disease. The analysis is carried out on the CSF and serum of the patients. The immunological study involves the quantification of the proteins from the CSF and the serum and the qualitative analysis by isoelectric focusing and immunodetection. There are 5 basic patterns of oligoclonal bands: two positive, two negative (polyclonal and mirror pattern) and one characteristic of patients with monoclonal gammopathy. The positive patterns are directly associated with known pathologies, and the negative polyclonal pattern with the absence of MS. However, the mirror pattern (identical bands in CSF and serum as a mirror image), which is relatively frequent, is not associated with any specific pathology, although it is describing some kind of process with a systemic origin in the CNS. This is what has motivated us to carry out a more precise study on this type of pattern.

We are studying a population of 462 anonymized patients. Their data is collected in an ad hoc database for the study. An extensive statistical analysis is being carried out and includes variables such as the Immunoglobulin G, M and A index, sex, age, as well as the diagnose that patients present at the time they visit the doctor, in order to link both biochemical data and demographic data as well as the diagnosis with the mirror pattern, which allows us to associate specific pathologies with this type of oligoclonal band pattern.

Our objective is to associate the mirror pattern bands with one or more specific pathologies of neurological origin in order to use these results as discriminant diagnosis disease. The impact of the results of this study in the daily clinic healthcare is very important because it can provide data that support a more accurate diagnosis in those patients with non-determining clinical presentations that are difficult to diagnose only with the symptoms they have.

REFERENCES

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