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Tears examination as a substitute for CSF examination in MS patients

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The bizarre confusing symptoms of multiple sclerosis (MS) with its remission and relapse property, and the unavailability of a single neurological or laboratory test, which can definitively confirm or rule out MS, make it difficult to be diagnosed.

Cerebrospinal fluid (CSF) analysis is often performed in cases of suspected MS to identify the elevation of immunoglobulin (mainly IgG) in the form of oligoclonal band. Although CSF as a test is a highly useful test in the diagnosis of MS, but it is not free of risk and complication moreover it can not be performed frequently.

It had been noticed that the tears of MS patients compose immunological abnormalities, namely, increased immunoglobulin levels (mostly IgG), and the appearance of oligoclonal bands in electrophoresis like that of the CSF analysis. Accordingly in this study we tried to explore the significant of tear analysis in the diagnosis of MS.

Materials and methods: Fifty six tear samples were tested; those include normal subjects, MS patients, and patients with other neurological diseases. Collection of tears after simple induction of lacrimation, the microns of these tears were used. Tear electrophoresis using conventional SDS polyacrylamide gel electrophoresis according to the recommendations of LKB was used.

Results: Tear electrophoresis had showed two specific bands appearing in tear samples of multiple sclerosis patients, which were absent in samples of normal subjects. One band appeared in the immunoglobulin region. While the second band had a lower molecular weight, which was about 25 kD.

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Biography

Fakhir S Al-Ani has completed his M.Sc. study and PhD study from Baghdad University, School of Medicine. He spent about 30 years as a teaching staff in medical college. He is now working in Mutah University, Medical College as the head of Physiology & Pathology Dept. He has supervised more than 13 Ph.D thesis, and more than 23 M.Sc. thesis. He has published more than 35 papers in reputed journals.

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