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Comparison of oligoclonal band numbers of western and Sri Lankan Multiple Sclerosis patients

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Multiple Sclerosis (MS) is a highly heterogeneous disease in terms of clinical and paraclinical aspects, partly attributed to the possible differences in environmental and genetic aetiology. Oligoclonal bands (OCB) are an intrathecal IgG response which can be visualized by isoelectric focusing (IEF) and immunoblotting. OCB has been reported to be important in determining the immunopathology of MS and disease progression.

The objective of this study is to compare the OCB numbers in Western and Sri Lankan MS patients.

Serum and CSF electrophoresis was performed using the horizontal bed electrophoresis system in a pH gradient. The standard IEF protocol followed in Karolinska Hospital, Sweden was adapted to suit our laboratory conditions. OCB positivity or negativity band counts were independently observed and recorded by three trained investigators. Two or more OCBs present in CSF and absent in serum were considered as positive for MS. Statistical significance of the difference of the mean OCB counts was calculated by Unpaired t test using Graph pad prism 5 software.

Statistical analysis confirmed that the mean values of average OCB counts in western positive controls were significantly higher than the Sri Lankan OCB positive MS patients ($P < 0.05$).

Thus, a significant quantitative difference is observed in oligoclonal antibody response between prototypic MS in western and Sri Lankan MS patients. This may have an association to the differences in immunopathology and clinical subtypes of MS in different geographical regions. However, a larger sample is required to further confirm these observations.

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