22nd International Conference on
Neurology and Neurophysiology
&
23rd International Conference on
Neurology and Neurosurgery

April 23-24, 2018   Rome, Italy

Prognostic value of complement 4 and regulator factor H, cholesterol and LDL in multiple sclerosis

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Background: Few years ago, the effort of establishing satisfactory biomarkers for Multiple Sclerosis (MS) has been proven to be difficult. Complement (C4), Cholesterol, LDL and Factor H are serum biomarkers with prognostic value.

Aim: To assess the prognostic value of serum complement C4, cholesterol, LDL, and regulator factor H, as biomarkers in MS patients.

Methods: This study was carried out in Neurology Department, Zagazig University Hospitals, and Medical Biochemistry department, from December 2013 to December 2015. The study was approved by local institutional review board for clinical research (Faculty of Medicine, Zagazig University), the protocol was designed according to declaration of Helsinki; the study included two groups: Patients group: 30 patients; 17 males and 13 females, ranging from 17-45 years. They were suffering from RRMS or SPMS, according to McDonald criteria. Controls group: 30 control; they were matched with the patients as regards, age, sex. They were 11 males and 19 females, with ages ranging from 22-52 years. All subjects were subjected to: detailed medical history and EDSS obtained from the patients or their relatives; all candidates were subjected to full neurological examination and patient group were examined twice to evaluate their EDSS in the beginning of the study and at the end laboratory investigations were obtained from all participants to analyze, complement C4, regulator factor H, total serum cholesterol, LDL, and (liver and kidney functions, ESR) at the start of the study, and after one year.

Results: Results revealed that there is significant correlation between MS duration and factor H, cholesterol, LDL no significant correlation between MS and complement C4, There was no significant difference regarding demographic data.

Conclusion: There is significant correlation between MS and factor H, cholesterol and LDL versus control group.

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