

Association between serum haptoglobin and the pathogenesis of alzheimer`s disease

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Objective: Haptoglobin (Hpg) is known to have several functional properties, including antioxidant and anti-inflammatory activities. In addition, it has been shown that the pathogenesis of neurodegenerative disorders, such as Alzheimer`s disease (AD), involves inflammation as well as oxidative stress. However, evidence suggesting an association between the serum Hpt level and AD is lacking. Therefore, we conducted this study in order to investigate whether serum Hpg is associated with AD. Methods: We compared the serum Hpg levels of 121 patients with newly diagnosed AD, 58 patients with Parkinson`s disease (PD) and 43 healthy controls. We also evaluated the relationship between the severity of cognitive impairment in patients with AD and the serum Hpg level. Results: The mean serum Hpg level of the patients with AD was significantly higher than that of the healthy controls ($p=0.042$), although it was not significant different from that observed in the PD group ($p=0.613$). We also found a significant positive association between the serum Hpg level and the severity of cognitive impairment, as measured using several neuropsychological tests, in the patients with AD. The odds ratio (95% confidence interval) of the patients with AD grouped according to the Hpg level was 2.417 (95% confidence interval=1.134-5.149). Conclusion: We observed a significantly higher mean serum Hpg level among the patients with AD compared to the healthy controls. These results support the hypothesis that oxidative stress and neuroinflammatory reactions play a role in the pathogenesis of AD.