

Poster presentation

## Correlations between serum lipids levels and ABCA1 gene in Alzheimer's disease

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### Background

Several studies suggest that ABCA1 gene encoding ATP-binding cassette transporters is a key regulator of cellular HDL metabolism and macrophage differentiation. These transporters are responsible of translocation processes of lipophilic compounds across biologic membranes. They act as major regulators of HDL metabolism and as a secretory regulators of cholesterol and phospholipid containing vesicles. A well-established risk factor for the development of Alzheimer's Disease (AD) is the  $\epsilon 4$  allele of the gene encoding Apo E which is central in the maintenance of brain cholesterol homeostasis. Because depletion of brain cholesterol levels reduces the generation of  $\beta$ -amyloid peptides ( $A\beta$ ) and because cholesterol lowering drugs may reduce the risk of AD we hypothesised that the cholesterol related gene ABCA1 may contribute to the genetic risk of AD.

### Material and Methods

In our study we have examined a sample of 49 unselected Alzheimer's Disease patients who visited for the first time our outpatient memory clinic.

### Results

We found no correlation between serum cholesterol levels and ABCA1 gene in our Greek sample ( $p > 0.05$ ).

### Discussion

Our conclusion is that there is need to be done further investigation into the mechanisms by which serum lipids are correlated with the pathogenesis of Alzheimer's Disease.