

ADIPONECTIN AND ITS FRACTIONS IN NEWLY DIAGNOSED, TREATMENT-NAÏVE MULTIPLE SCLEROSIS PATIENTS

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Background

Multiple sclerosis (MS) is a chronic autoimmune, inflammatory disease of the central nervous system with exact etiology being still unclarified. MS results in neurodegeneration and demyelination.

Adipose tissue is able to produce active molecules, adipokines. Adiponectin belongs to a group of anti-inflammatory adipokines. Plasma adiponectin circulates in three major forms: trimer (low molecular weight, LMW), hexamer (medium molecular weight, MMW), and high molecular weight (HMW) multimer, and additionally in proteolytically cleaved form, globular adiponectin. Different adiponectin fractions have been shown to exert distinct biological activity.

Aim

We aimed to assess adiponectin and its fractions in newly diagnosed, treatment-naïve MS patients.

Material and methods

The study group comprised of 32 patients (24 women/8 men) with the first time episode of MS (mean age 34.9±8.3yrs.; BMI 24.4±4.8 kg/m²). The controls included 40 individuals (34 females/6 men; mean age 32.3±8.1yrs.; BMI 24.3±4.6 kg/m²).

Fasting plasma adiponectin and its fractions were evaluated with ELISA. Statistical analyses were performed.

Results

Comparison between results of MS group and the controls revealed no significant differences in concentrations of all evaluated parameters. When data were adjusted to BMI we found that total adiponectin and HMW values were markedly lower in MS group (both p0.01), MMW adiponectin concentration was increased in MS subjects (p0.001) while LMW adiponectin levels remained comparable between the groups.

Conclusions

Alterations of adiponectin levels, independent of BMI, in newly diagnosed MS patients may be related to autoimmune neurodegeneration and demyelination.

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