

Poster presentation

Significance of omega-3 polyunsaturated fatty acid administration in the therapeutic approach of depression in hemodialysis patients

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Background

According to various reports and clinical studies mental disorders represent a frequent sequela of chronic diseases. In end stage renal disease, in particular, mood disorders and more specifically major depression is met with a frequency of 20-30% and is the most widely acknowledged abnormality [1]. As a consequence, overall quality of life as well as treatment compliance is severely impaired [2]. Omega-3 (Ω 3) polyunsaturated fatty acids (PUFAs) have been shown to reduce the risk and to treat mental disorders including depression [3]. However, evidence to date, remains obscure and recommendations must be given with caution [4]. The aim of the present study was to evaluate the significance of Ω 3 administration in the treatment of depressive maintenance hemodialysis (HD) patients.

Materials and methods

Forty-five (n=45) patients, 32 male and 13 female, mean age 59.7±16.2 years, on maintenance HD were recruited. Using the Hamilton Depression (HAMD) Scale, participants mood was evaluated at baseline. According to HAMD scoring, patients were subdivided into two groups. Group A comprised 29 patients with score 0-7 (absence of depression), whereas group B included 16 patients scoring higher than 7 (clinically significant depression). Subjects were further evaluated in terms of socioeconomic, clinical, laboratory parameters and presence of sleep dis-

orders (as assessed by Athens Insomnia Scale, AIS). Depressive patients (group B), received 1 gr of Ω 3 PUFAs (eicosapentaenoic acid and docosahexaenoic acid) daily for a study period of 16 weeks, at the end of which mental status, social and medical parameters were reassessed.

Results

Fourteen out of 16 participants completed 16 weeks of treatment, one patient received a renal transplant and one refused to comply. Non-significant changes of serum creatinine, serum urea, electrolytes, albumin and haemoglobin levels were observed during the intervention period. Total serum cholesterol, serum triglycerides, LDL-C and VLDL-C levels decreased at 16 week, although changes were not statistically significant. Furthermore, serum HDL-C levels significantly increased from 36.0±8.87 mg/dl at baseline to 39.6±8.93 mg/dl at week 16 (p=0.002). Most importantly, there was a significant improvement in the mood of participants, as evidenced by the reduction of mean HAMD scores from 16.64±6.39 to 13.79.69±6.07 (p=0.001). On the other hand, Ω 3 PUFAs did not seem to influence sleep disturbances since no alteration in patients AIS scores were observed throughout the study period.

Conclusions

We conclude that administration of Ω 3 PUFA could be associated with a clinically significant mood improve-

ment in patients with end stage renal disease and depression. Further research is required to elucidate the role of polyunsaturated $\Omega 3$ fatty acids as sole or as an adjuvant therapeutic modality in the treatment of depressive maintenance hemodialysis patients.

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