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THE RELATION BETWEEN DIABETES AND DEMENTIA IN PATIENTS UNDERGOING DIALYSIS

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Introduction and Aims: End-stage renal disease (ESRD) patients, undergoing maintenance hemodialysis often suffer from depression and dementia. However, the relation between diabetes and depression and/or dementia to those patients has not yet been efficiently examined. Purpose of the study was to investigate the effect of diabetes on depression and dementia in a population of chronic ESRD patients undergoing maintenance dialysis.

Methods: 53 patients (mean age 69.57 ± 13.02 years, 15 male / 38 female) undergoing maintenance thrice-weekly dialysis for 28.34 ± 56.36 months were included in the study. 27 of them had established diabetes mellitus. During a dialysis session, all patients were interviewed using the standardized questionnaires "Mini Mental State Examination" (MMSE) and "Hospital Anxiety and Depression Scale" (HADS) to determine the level of depression and dementia. Fasting blood samples were taken in order to determine hemoglobin levels, dialysis adequacy (determined by kt/V) and serum levels of sodium, potassium, calcium and phosphorus. Inflammation status was assessed by serum levels of C-reactive protein (CRP).

Results: The level of depression and dementia for the total of our population was defined as moderate (13.91 ± 10.56 and 15.00 ± 5.49 degrees respectively). Diabetics showed significantly higher depression level than non-diabetics (17.63 ± 10.63 vs 10.04 ± 9.15 respectively, $p < 0.05$). Although dementia level was assessed as moderate for the total of our population, non-diabetics presented significantly lower dementia level than diabetic patients (13.19 ± 5.19 vs 16.88 ± 5.23 respectively, $p < 0.05$). In the non-diabetic group there was a significant difference of depression level among sexes (men 8.79 ± 7.70 vs women 13.43 ± 12.35 , $p < 0.05$). However, there was no difference of dementia levels among men and women. CRP circulating levels were correlated with dementia ($r = 0.487$, $p < 0.05$), while no association was found between CRP and depression. In diabetics, no relation between dementia/depression and gender or CRP levels was established.

Conclusions: ESRD dialysis patients suffer from moderate depression and dementia. In those patients, depression is closely related with the presence of diabetes. In non-diabetic dialysis patients we found a strong association of female gender and depression status and high inflammatory status with dementia.

BIOGRAPHY

Aikaterini Nouri has completed her MSc at the age of 25 years from Alexander Technological Educational Institute of Thessaloniki and post nursing studies also from Alexander Technological Educational Institute of Thessaloniki. She is editor of essay with title "The relation between diabetes and dementia for patients undergoing dialysis". At the 9th European nursing conference which held in Heraklion, Crete, Greece, she has presented a diabetic related essay.

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