ARTERIAL STIFFNESS AND VITAMIN D IN ALZHEIMER’S DISEASE

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Introduction: The Pulse pressure, surrogate measures of arterial stiffness, is simply the difference between systolic and diastolic pressures, and depends on the cardiac output, large-artery stiffness and wave reflection. Advances in biomedical science suggest that vitamin D is a hormone that is integral to numerous physiologic functions in most cells and tissues. A number of recent reports on potential associations between vitamin D deficiency and cardiovascular disease have highlighted its role in this system. We investigated a relation of Pulse Pressure with 25-hydroxyvitamin D (25(OH)D) in a population of elderly subjects with diagnosis of Alzheimer’s disease.

Methods: We studied the relationship between arterial stiffness and 25(OH)D assessed by pulse pressure in 122 (F 77% age 78,8± 5,21 years) consecutive elderly patients attending our Memory Clinics with diagnosis of Alzheimer’s disease

Results: In our population hypovitaminosis D was present in 100%; 96 patients (78,7%) had 25(OH)D serum levels inferior to 20 ng/ml; 26 (21,3%) patients between 20 and 30 ng/ml. In our study we find that pulse pressure is inversely correlated with 25(OH)D (Figure 1, r= -0,553, P=0,000). After adjustment for age, gender, systolic blood pressure, cardiovascular diseases, and antihypertensive therapy, a significant relationship was observed between pulse pressure and 25(OH) (β= -0,524; p=0,000).

Conclusion: Our results showed a relationship between Pulse Pressure and 25(OH) D suggesting that 25(OH)D could be involved in the onset of arterial remodelling. Certainly our results need confirmation with prospective studies, but this study could open the way to perform other investigations to better explore the correlation between arterial stiffness and vitamin D.