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Is Periodontitis Associated With Risk for Mild Cognitive Lmpairment?

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Objectives Evidence from the literature suggest that there is association of severe periodontitis and dementia. Together with increasing age, mild cognitive impairment (MCI) is considered a risk factor for dementia, but also a stage of the disease at which it is possible to act to mitigate and postpone the disease. The aim of this study was to determine whether the increased risk of developing MCI is associated with severe periodontitis in middle-aged patients.

Methods Patients diagnosed with periodontitis were included in the study. Patients with severe periodontitis (SP stage III, IV) were considered as cases and those with mild to moderate periodontitis (MP stage I, II) as controls. A detailed medical history and periodontal status were recorded. All patients underwent neuropsychological assessment of cognitive functions: mental flexibility, psychomotor speed and working memory using the Symbol Digit Modalities Test (SDMT; a lower score indicates a higher risk of MCI), Digit Span and Reverse Test, Trial Making Test A, B, BA (TMT) and Attention Matrices Test.

Results Of the 102 participants, 71 were SP and 61 were women (59.8%). The average age was 45 years (IQR 8.62). Patients with SP were significantly older and had worse oral, periodontal, and neuropsychological status. A stepwise logistic regression with statistically significant variables was performed to evaluate the relationship between neuropsychological assessment and periodontitis severity: Age, gender, total number of teeth, total number of sound teeth, the Decayed, Missing, and Filled Teeth (DFMT) index and SDMT as predictors. Lower SDMT scores, a lower number of teeth, a lower number of sound teeth and a higher DFMT index predicted SP and explained about 60% of the variance (Nagelkirke $R^2=0.616$).

Conclusions This study suggests that in addition to the traditional risk factors for SP, the risk of MCI is also associated with SP in middle-aged patients.