Introduction: OSA is a common sleep disorder that represents an important risk factor for stroke. White matter changes (WMC) are considered a subtype of small lacunar stroke and are particularly common in OSA patients. WMC first stay clinically silent and later cause cognitive decline. It is known that WMC are common in OSA, but it is not confirmed whether OSA is an independent risk factor for WMC.

Methods: Cerebral MRI was performed in 26 patients with OSA compared to 26 control subjects with similar risk factors for stroke. The severity of WMC in the whole brain and particulary brain lobes were evaluated according to the Fazekas score.

Results: The two groups were equally matched by age and main cerebrovascular risk factors. We compared pathological MRI results (Fazekas 0) versus normal MRI results (Fazekas 0). WMC were found in 61,5% of OSA patients and in 46,2% of control subjects. The majority of OSA patients and controls had WMC in the frontal lobe, 53,8% and 42,3% respectively. 26,9% of patients with OSA and control subjects had a pathological Fazekas score in the parietal lobe. The differences were not statistically significant.

Conclusion: Our study confirmed that WMC are a common finding in OSA. To accurately conclude whether OSA is an independent risk factor for WMC larger studies using a unified semi-quantitive approach such as Fazekas scale or a more precise volumetric method would be necessary.