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Title: The relationship between uric acid levels and mean platelet volume and metabolic syndrome in males with obstructive sleep apnoea syndrome

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Body: Aim: The aim of our study was to investigate the post-treatment changes in the level of UA and the relationship between serum uric acid (UA) levels and mean platelet volume (MPV) and metabolic syndrome in males with obstructive sleep apnoea syndrome (OSAS). Material and Methods: Seventy nine men who had been performed a single night polysomnography (PSG) (mean AHI=42.59±2.79 events/hour), were included to the study. Demographics characteristics, serum uric acid levels, MPV and PSG results were recorded. We divided patients in two groups according to 75 percentiles of UA levels: 1st with hyperuricaemia - UA ≥ 6.86 mg/dL and 2nd with normouricaemia - UA < 6.86 mg/dL. Results: There was a statistically positive correlation between UA (6.03±0.13 mg/dL) and AHI (p=0.037), BMI (p=0.013), waist circumference (p=0.027), O₂ desaturation % (p=0.047). Subjects with hyperuricaemia had higher AHI, BMI, (p<0.05), waist circumference (p<0.01), neck circumference, oxygen saturation index (ODI), O₂ desaturation % and triglyceride. The duration of REM decreased and Stage 1 and 3 increased. The UA and MPV were found higher in patients with MS and OSAS and UA levels decreased after CPAP treatments. However, ODI and MPV were included to the model to estimate AHI at stepwise regression analysis (R square %89, p<0.001). Conclusion: This study showed that obesity was the determinant of hyperuricemia and high levels of UA was found with MS and OSAS. The levels were decreased after CPAP therapy. An also, it is thought that high levels UA and MPV are associated with cardiovascular complications in OSAS.