**Body:** IM: Red blood cell distribution width (RDW) is a newly recognized risk marker for various diseases. However, the role of RDW is unknown in patients with obstructive sleep apnea syndrome (OSAS), especially in OSAS patients with cardiovascular diseases. We also investigate the role of the MPV, PLT, PDW with RDW in OSAS patients with cardiovascular diseases.

**MATERIAL-METHODS:** The 142 patients who suffered from sleep disorders and applied for a single night polysomnography were included. The demographic data and PSG results with RDW, PLT, MPV, PDW were recorded. The cardiovascular diseases of them were classified and recorded. Chi-square test, Bivariate correlation and Logistic regression tests were done.

**RESULTS:** The age, BMI and AHI of patients were 50.06±0.93, 31.99±0.49 kg/m2 ve 43.42±2.15 event/hour. 84.5% of them were men. A positive correlation between RDW and MPV (r=0.217), BMI (r=0.255); PLT and AHI (r=0.177) were found. The patients >=40 years old (60.6%) had cardiovascular diseases. (Chi-square test p=0.02). RDW was higher in patients >=40 years old and 19% of them had RDW>14%. PDW (odds ratio [OR] =6.02 [95% CI = 1.3-28.2], p = 0.023) were found to be associated with increased risk for hyperlipidemia in patients with severe OSAS on logistic regression analysis. To estimate the AHI property; age, BMI, ODI and PLT were included to the model in stepwise regression analysis (R square %78.2,p=0.000).

**CONCLUSION:** We think that RDW should be used with other markers, especially as PDW, in prediction of cardiovascular diseases in patients with severe OSAS,