Objectives: The purpose of our study to investigate how the severity of the disease correlates with the weight gain in patients with obstructive sleep apnoea syndrome (OSAS).

Methods: Children with previously diagnosed OSAS by polysomnography in the Sleep Laboratory of our department were included in the study. Data were collected between September 2016 and January 2017. The correlation between the apnoea hypopnoea index and body mass index was analyzed. The occurrence of postoperative respiratory complications was evaluated.

Results: 75 patients with OSAS were recruited in the investigated period. Mild OSAS was diagnosed in 54 patients, moderate OSAS in 11 and severe in 10 patients. There were 5 obese and 9 overweight patients in the mild OSAS group (26%), 1 obese and 2 overweights in the moderate group (27%), and 2 obeases and 1 overweight in the severe group (30%). In the mild and the moderate group, the occurrence of the postoperative complications was 7.7%, in the severe group this number was 40%. All of the patients with severe OSAS who had postoperative complication were obese. The complications were desaturation, apnoea, stop breathing. Postoperative complications: desaturation, apnea, stridor, stop breathing

Conclusions: We have not found linear correlation between the severity of OSAS and the extent of obesity but postoperative respiratory complications occur in significantly higher proportion in the obese patients with severe OSAS. We have found correlation in the severe OSAS group in cases of older patients between the AHI and BMI.