

## **ABSTRACT**

### **AIM AND OBJECTIVE**

The purpose of the study was to assess the role of facial pattern as a significant factor in patients with obstructive sleep apnoea and to study the relationship between craniofacial abnormalities, obesity and severity of OSA.

### **MATERIALS AND METHODS**

Total of 25 patients in the age group of 20-65yrs diagnosed as Obstructive sleep apnoea with AHI index more than 10 by overnight polysomnography was chosen for the study. The patients data were collected from various sleep centers and ENT clinics across different parts of South India. The data included patients age, sex, polysomnography report, body mass index and neck circumference. Lateral cephalograms were taken for all subjects in a standardized natural head position and were analysed using radiant software. AHI were divided into subgroups based on the severity. BMI and NC were divided into subgroups and the cephalometric measurements were compared in all the groups.

### **RESULTS**

OSA is seen predominantly seen among the middle aged males. About 50% of the patients had severe OSA with a mean value of 71.1 indicating the

severity of the disorder among the south Indian population. Majority of OSA had significant craniofacial abnormalities such as mandibular retrognathism indicating class 2 skeletal pattern, a high mandibular plane angle and increased LAFH showing a tendency towards a hyper divergent face. The hyoid bone was positioned antero-inferiorly in majority of OSA subjects. Significant soft tissue abnormalities include increased length and thickness and soft palate with a significant reduction in posterior airway space. Patients were divided based on AHI into three sub groups as mild, moderate and severe cases . There was no significant correlation between cephalometric measurements and AHI. Patients were divided based on BMI into three subgroups as normal, obese and overweight. There was no significant correlation between cephalometric variables and BMI. Patients were divided into three groups based on Neck circumference as normal, medium and large. There was no significant correlation between cephalometric variables and NC. The relationship between AHI, BMI and NC was performed using Pearson correlation coefficient that showed strong correlation between BMI and NC and no correlation with AHI.

## **CONCLUSION**

There is a well recognised relationship between OSAS and craniofacial architecture in patients with obvious craniofacial abnormalities. Nevertheless, more than 50% of OSA patients were found to be obese and it is interesting to note that these obese patients demonstrated significant

alterations in both hard and soft tissue craniofacial structures contributing to pathogenesis of OSA.

**KEY WORDS**

**OSA, CEPHALOMETRY, CRANIOFACIAL MORPHOLOGY,  
SOUTH INDIAN POPULATION, AHI, BMI AND NC.**