

ORIGINAL ARTICLE

Assessment of cases of Obstructive sleep apnea syndrome

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ABSTRACT:

Background: Obstructive sleep apnea syndrome (OSAS) is characterized by episodes of partial or complete obstruction of the upper airway during sleep. The present study was conducted to assess cases of OSAS among patients. **Materials & Methods:** The present study was conducted on 68 patients diagnosed with OSAS of both genders. Patients were subjected to nasal obstruction symptom evaluation. Patients were subjected to septoplasty and decongestion of lower turbinates. **Results:** Out of 68 patients, males were 42 and females were 26. Severity of nasal obstruction was slight in 12 patients, moderate I 20, severe in 30 and extreme 16. The difference was significant ($P < 0.05$). The mean AHI pre- operative score was 52.8 and AHI post operative score was 46.2. The difference was significant ($P < 0.05$). **Conclusion:** Authors found that Obstructive sleep apnea syndrome is common complaint among middle age patients. Septoplasty and FESS is routine performed procedure.

Key words: FESS, Obstructive sleep apnea syndrome, Septoplasty

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INTRODUCTION

Obstructive sleep apnea syndrome (OSAS) is characterized by episodes of partial or complete obstruction of the upper airway during sleep. There is interrupting or decreased flow of air followed by transient awakening that leads to the restoration of upper airway permeability.¹

Nose plays a crucial role in OSAS patients. Any pathological alterations involving the nose, both from the anatomical and functional point of view, can often be regarded as triggers or precipitating obstructive sleep disorder.² Sleep apnea syndrome affects millions of adolescents over the world. It is a risk factor for many diseases such as hypertension, heart failure, heart attack, cardiovascular events and arrhythmias.³

OSAS has a negative impact on the health and behavior. Nasal disorders appear to play an important role in assessing a negative effect on sleep quality and daytime sleepiness. It is the second disease among different respiratory disorders. It is estimated to affect 2-4% of the adult population. It can affect any age group and but it is more common in middle aged males. The most common symptom in patients with OSAS is snoring.⁴ Patients tend to have a long prior history of snoring that has become increasingly intense and irregular over time, often in connection with increased body weight, alcohol consumption or muscle relaxant drugs, or with

menopause in women. The greatest impact of nasal surgery on OSAS was observed in those studies introducing nasal surgery in a multilevel surgical such as concurrent palatal implants or those associated with oropharynx and hypopharynx surgery. Functional nose surgery is definitely suggested in the treatment of simple-snoring.⁵ The present study was conducted to assess cases of OSAS among patients.

MATERIALS & METHODS

The present study was conducted in the department of ENT. It comprised of 68 patients diagnosed with OSAS of both genders. Diagnosis was made by nocturnal cardiopulmonary monitoring and/or polysomnography. Ethical approval was obtained from institute prior to the study. All patients were informed regarding the study and written consent was obtained.

Data such as name, age etc. was recorded. A thorough clinical examination was done. Patients were subjected to nasal obstruction symptom evaluation, upper airway optical fiber endoscopy with Muller's maneuver and cardiorespiratory night monitoring. Severity of nasal obstruction was also recorded. Patients were subjected to septoplasty and decongestion of lower turbinates. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Total- 68		
Gender	Male	Female
Number	42	26

Table I shows that out of 68 patients, males were 42 and females were 26.

Table II Severity of nasal obstruction

Severity	Range of score	Number	P value
Slight	0-5	12	0.05
Moderate	6-10	20	
Severe	11-15	30	
Extreme	16-20	6	

Table II shows that severity of nasal obstruction was slight in 12 patients, moderate I 20, severe in 30 and extreme 16. The difference was significant (P< 0.05).

Graph I Severity of nasal obstruction

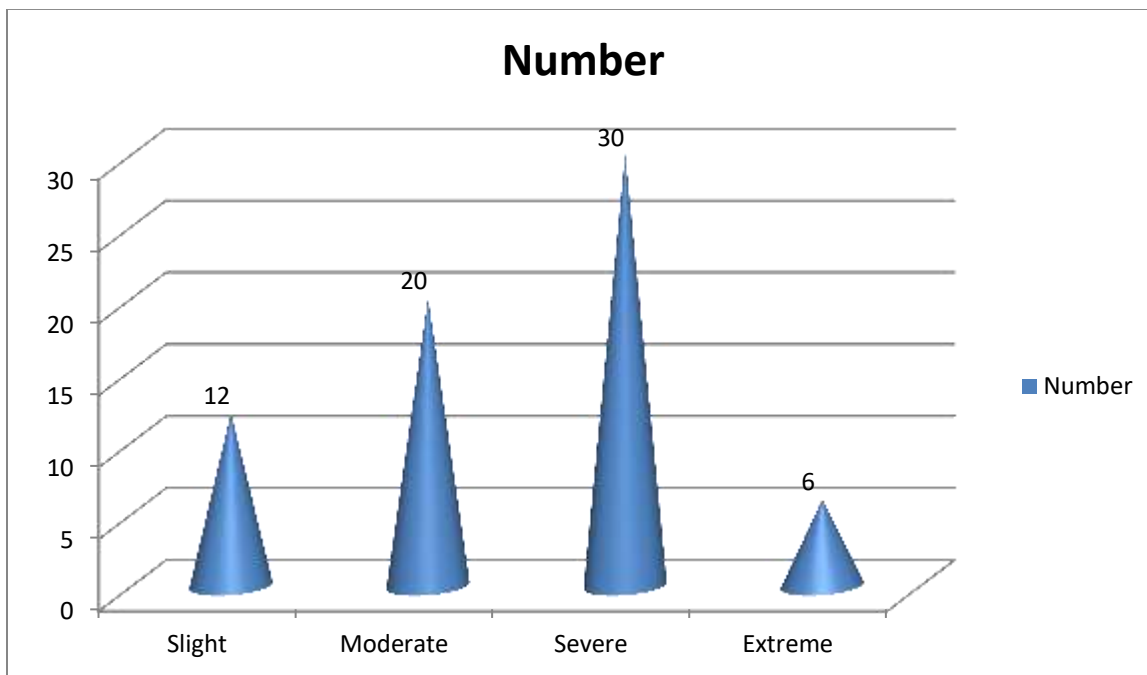
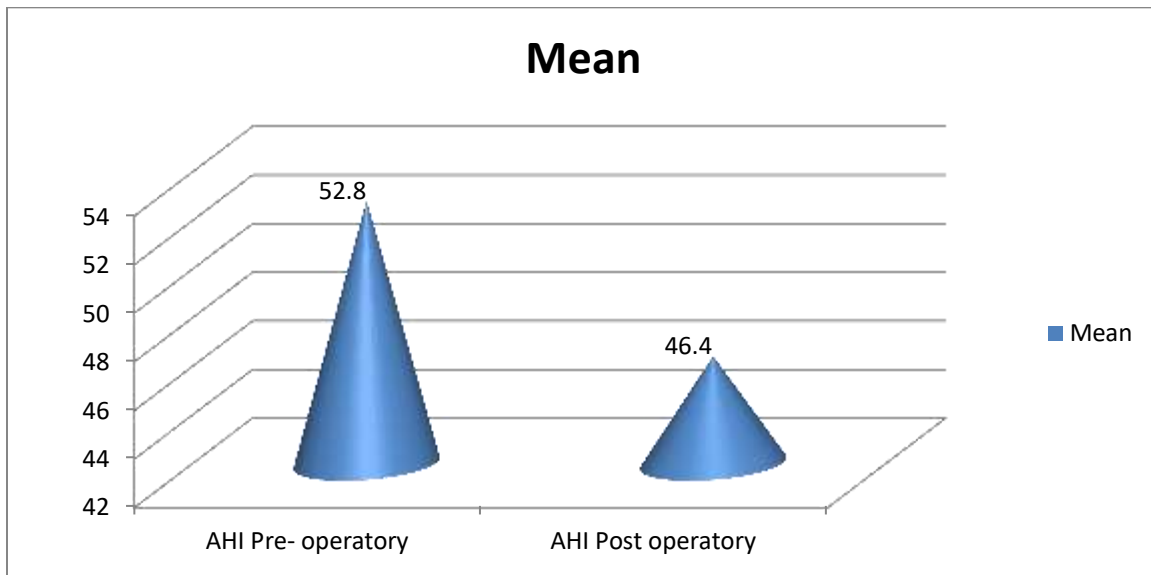


Table III Apnea and hypopnea index before and after the surgery

Score	Mean	P value
AHI Pre- operative	52.8	0.01
AHI Post operative	46.4	

Table III, graph II shows that mean AHI pre- operative score was 52.8 and AHI post operative score was 46.2. The difference was significant (P< 0.05).

Graph II Apnea and hypopnea (AHI) index before and after the surgery



DISCUSSION

Several factors have been demonstrated in the development of OSAS. The main cause is a reduction of the expansion forces of the pharyngeal dilator muscles, as in situations of genioglossal muscle dysfunction, and discoordination between the inspiratory activity of the muscle and respiratory effort, which play an important role in progression of the disease. Additional factors are excessive or elongated tissues of the soft palate, macroglossia, tonsillar hypertrophy, and a redundant pharyngeal mucosa.⁶

Sleepiness is the most important daytime symptom of OSAS, and is due to the fragmentation of sleep caused by recurrent electroencephalographic awakening that usually terminate the apneas and hypopneas. Daytime sleepiness is of scant diagnostic value, because a number of situations and disease processes can cause the same symptoms. Morning headaches, apathy, depression, concentration difficulties, memory loss and decreased libido are other characteristic daytime symptoms of patients with OSAS, all as a consequence of daytime sleepiness. Septoplasty is commonly encountered surgical procedure in case of management of OSAS patients.⁷ The present study was conducted to assess cases of OSAS among patients.

In present study, out of 68 patients, males were 42 and females were 26. Severity of nasal obstruction was slight in 12 patients, moderate I 20, severe in 30 and extreme 16. The difference was significant ($P < 0.05$). Pae et al⁸ found that tongue shape in patients with OSAS to be different from that of normal subjects in the supine position -this being the first study to evaluate tongue shape in the supine position. Tongue shape

therefore may be taken to play an important role in the development of OSAS.

We found that mean AHI pre- operative score was 52.8 and AHI post operative score was 46.2. An essential requirement for a correct diagnosis of OSAS is a correct anamnesis, recording the family history and personal antecedents such as tonsillectomy/adenoidectomy in childhood, alcohol intake, the use of muscle relaxant drugs, obesity, etc. is important. It is also important to establish the profession of the patient, since in some professions OSAS constitutes a medical emergency⁹.

Series et al¹⁰ in their study performed various type of nasal surgery such as septoplasty, decongestion of the lower turbinates and FESS. All patients had a subjective degree of obstruction classified in severe or extreme by the NOSE scale before surgery. Almost all patients reported a mild degree of obstruction after the surgery. About CPAP usage, the average usage has passed by 2, 3 h at night to 6, 8 h after the surgery. The result is significant because it shows how the nasal functional surgery can make selected patients suitable to ventilation therapy.

Wu et al¹¹ conducted a study to evaluate patients undergoing nasal surgery and observed pre- and post-operatively to verify AHI index. Author found that AHI index decreased in patients with OSAS after nasal surgery.

Gondim et al¹² assessed 125 patients with OSAS and were subjected to Body Mass Index and Epworth Scale. Among the patients, 75 were males and 50 were females. The main symptom was snoring. 46% had normal PSG, 30% had light OSAHS, 15% moderate and 9% severe OSAHS and it was not observed a correlation between clinical data and PSG results.

Concerning clinical symptoms, only insomnia has shown relevance when univariably analyzed in normal and light OSAHS patients compared to patients with moderate and severe OSAHS, losing its importance when analyzed together with other factors. The limitation of the study is small sample size.

CONCLUSION

Authors found that Obstructive sleep apnea syndrome is common complaint among middle age patients. Septoplasty and FESS is routine performed procedure.

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