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Efficacy Of Uvulopalatopharyngoplasty (UPPP)In Obstructive Sleep Apnoea

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Abstract:
Obstructive sleep apnoea *(OSA) is the most common type of sleep apnoea and is caused by obstruction of the upper airway. It is characterized by repetitive pauses in breathing during sleep, despite the effort to breathe, and is usually associated with a reduction in blood oxygen saturation. These pauses in breathing, called "apnoeas" (literally, "without breath"), typically last 20 to 40 seconds. OSA is commonly accompanied with snoring,& also associated with symptoms during the daytime. Symptoms may be present for years or even decades without identification, during which time the individual may become conditioned to the daytime sleepiness and fatigue associated with significant levels of sleep disturbance. Individuals who generally sleep alone are often unaware of the condition, without a regular bed-partner to notice and make them aware of their symptoms. The aetiology may be Dynamic cause due to increased soft tissue around the airway (sometimes due to obesity), and Fixed cause due to rigid structures like deviated septum, hypertrophied inferior turbinates,septal spurs, nasal polyps adenoid hypertrophy.*
Keywords: *OSA Snoring. Squelae of OSA PSG DISE Uppp Tongue base reduction Coblator Prognosis Without treatment, the sleep deprivation and lack of oxygen caused by sleep apnoea increases health risks such as cardiovascular disease, high blood pressure, stroke, diabetes, clinical depression, weight gain and obesity.*
The most serious consequence of untreated OSA is to the heart. Persons with sleep apnoea have a 30% higher risk of heart attack or death than those unaffected. In severe and prolonged cases, increased in pulmonary pressures are transmitted to the right side of the heart. This can result in a severe form of congestive heart failure known as cor pulmonale.

I. Methods

There are a number of different operations that may be performed including
Nasal surgery, including turbinectomy, or straightening of the nasal septum, in patients with nasal obstruction or congestion which reduces airway pressure and complicates OSA.
Tonsillectomy and/or adenoidectomy in an attempt to increase the size of the airway.
Removal or reduction of parts of the soft palate and some or all of the uvula, such as uvulopalatopharyngoplasty (UPPP) or coblator assisted uvulopalatoplasty Modern variants of this procedure sometimes use radiofrequency waves to heat and remove tissue.

II. Case reports/introduction

There were 3 cases reported to ENT opd Guntur medical college, Guntur/o snoring, excessive day time sleep, and easy fatigue, , restless sleep, and loud snoring (with periods of silence followed by gasps). Less common symptoms are morning headaches; insomnia; trouble concentrating; mood changes such as irritability, anxiety and depression; forgetfulness; increased heart rate and/or blood pressure; decreased sex drive; unexplained weight gain; increased urination and/or nocturia; frequent heartburn or gastroesophageal reflux disease; and heavy night sweats.

All these case were admitted for investigations done to know the cause for Obstructive sleep apnoea.

1. **Polysomnography** in diagnosing OSA characterizes the pauses in breathing. An "event" can be either an apnoea, characterised by complete cessation of airflow for at least 10 seconds, or a hypopnoea in which airflow decreases by 50 percent for 10 seconds To grade the severity of sleep apnoea, the number of events per hour is reported as the apnea-hypopnea index (AHI). An AHI of less than 5 is considered normal. An AHI of 5-15 is mild; 15-30 is moderate and more than 30 events per hour characterize severe sleep apnoea.

2 .**Drug Induced sleep study**
This is an import tool to detect the level of obstruction.

All these cases were properly investigated to exclude cardiac problem and shifted to operation theatre and under guidance of anaesthetist drug propofal 2mg intravenously given depends upon the wt of the pt and

once the pt was unconscious started snoring loudly and pt were monitored carefully without falloff Oxygen saturation ,pulse ,Bp and video flexible nasopharyngeal scope passed and level of obstruction noted , was recorded. Each pt had different level of obstruction either multilevel, or single level (soft palate, Uvula, Enlarged Tonsills,Large base of the tongue falling over the epiglottis) Oropharyngeal obstruction.

3. Wt of the pt, neck circumference, Blood pressure, Blood sugar levels and with routine haematological investigations done.

4. For all these pts a **preoperative video recording** and post op video recording were taken when they are sleeping without disturbance.

Since all these cases having different level of obstruction each cases are posted to do pharyngoplasty,, (uvula palate Pharyngoplasty) ,Tonsillectomy, tongue base reduction with higher end coblator assisted radiofrequency.

III. Procedure

These cases were posted under general anaesthesia kept in supine position with Roses position mouth is retracted with Davisboyles mouth gag oropharynx exposed , depends upon the level of obstruction Uvulopalato pharyngoplasty done to make a wider space with coblator tonsllialr wands , and tongue base is reduced with coblator progressively so a wider gutter is created so that base of the tongue falling on the epiglottis is cleared , and in those case with hypertrophied inferior turbinate's turbinoplasty done with reflex wands of coblator , and in cases of adenoid hypertrophy with coblator assisted adenoidectomy done. After completion all these procedures all these cases are kept in ICU for observation and in cases of tongue base reduction endotracheal tube was removed after 24 hrs with the fear oedema of the tongue to avoid catastrophe postoperatively.

IV. Results

After 7th postpone pts were discharged and reviewed after 2weeks and post op sleep pattern was recorded and surprisingly the snoring , choking (apnoea,Hypoapnea)disappeared, and again reviewed after monthly up to 6 months the oropharynx is widened at uvulopalatal tonsillar area, and the base of the tongue gutter is healed, pts sleeping prtners are happy about the result .

V. Conclusion

OSA is common in our society, the risk factors for OSA is Obesity. The reason for the obesity is multifactorial and every case of OSA must be investigated and proper diagnosis made to know the level of obstruction by DISE with propofal and surgical correction done to widen the level of obstruction to increase the oxygen saturations to avoid the catastrophes of CAD, CVA.

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Flexible endoscopic images recorded under drug indused sleependoscopic study

Normal during inspiration

Base of the tongue falling over epiglottis meeting the soft palate

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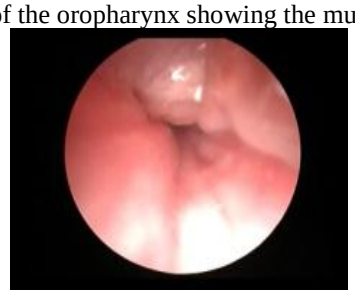
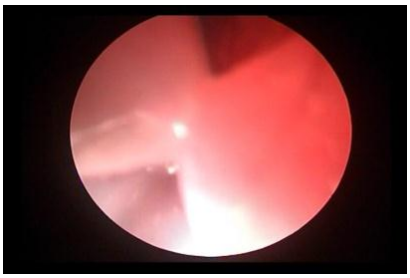
Complete closure of the oropharynx showing the multilevel obstruction



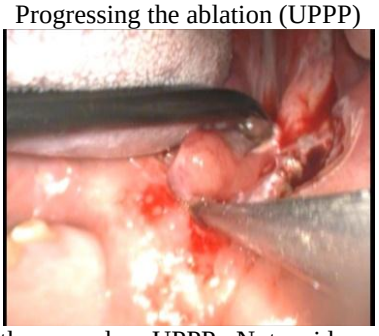
Tonsillars meeting in the midline causing the snoring



Multilevel obstruction where soft palate,uvula,base of the tongue,tonsil completely closed during snoring

With the coblator ablating the Uvala with soft palate.(UPPP)

Progressing the ablation (UPPP)



After completion of the procedure UPPP , Note wide space after the surgery