Uvulo palatopharyngoplasty: Treatment of Habitual Snoring

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Abstract

Habitual, loud snoring is common in the adult population, and may be the only symptom of the more serious Obstructive Sleep Apnoea syndrome. We report here our results of uvulo palatopharyngoplasty (UPPP), with or without nasal surgery, for snoring. Quantitative grading of the severity of the snoring shows that all patients were cured of symptomatic snoring, but that snoring was not altogether abolished in all patients.

Keywords: uveolopalatopharyngoplasty. habitual snoring.

الخلاصة

دراسة الشخير عند البالغين اثناء النوم وتاثيره على انسداد التنفس عند البالغين في دراستنا الحالية نركز على حالات توقف التنفس اثناء النوم وتاثير عملية استئصال اللوزتين وجزء من اللهاة وجزء من البلعوم مع مصاحبتها لعمليات جراحية اخرى في الانف احيانا . واظهرت النتائج بشفاء اغلب المرضى من حالاتهم المرضية على الرغم من بقاء قسم من الحالات تعاني من حالات خفيفة من الشخير.

Introduction

Snoring is produced by excessive air turbulence in the nose, or pharynx or hypo-pharynx, caused by partial airway obstruction during inspiration. [1]

Twenty-four per cent of men and 14 per cent of women may be snorers, with the condition being even more prevalent in those over 60 years, and in the obese [2]. Snoring is generally regarded as harmless, but hypertension is more prevalent in snorers, even after adjustment for obesity [2] and many researchers [3] [4] also regard snoring as an early stage of the Obstructive Sleep Apnoea (OSA) syndrome. The consequences of OSA include daytime somnolence, intellectual decline, cardiac arrhythmias and cor pulmonale [5]

Whether an habitual snorer develops OSA presumably relates to anatomical abnormalities, neuromuscular stability, airflow resistance of the upper airway, and the respiratory drive.[4]

The grading of snoring may be based on loudness, and the degree to which the sleep of others is disturbed, or on the number and severity of apnoeas. [2] [3]

Most conservative treatment of snoring (weight loss, alcohol avoidance, bed-head elevation, chin and head straps, and tongue restraining devices) gives inconsistent and generally unsuccessful results [6]. Application of continuous positive pressure to the upper airway is successful [7] but impractical [8]. Nasal surgery, tonsillectomy and uvulectomy have been performed for snoring but results are unreliable. In 1981 Fujita *et al.,* described uvulopalatopharyngoplasty (UPPP). It has been reported as 90-100 per cent successful for snoring [9] [8] [10]

and 50 per cent successful in OSA [9]. The criteria for 'success' after surgical treatment of socially disruptive snoring are not clear. We report here our results using a quantitative, clinical scale to grade the severity of snoring in order to better assess the impact of surgery on the condition

Table 1 Clinical Grading Of Snoring Adapted From Lugaresi et al. [2]

Grade	Description of sleep disturbance
0	No Snoring
I	Occasional mild snoring or snoring on back only. No apnoea or daytime somnolence.
II	Habitual snoring in all positions. No apnoea or daytime somnolence.
III	Habitual snoring associated with some episodes of apnoea, disturbed sleep pattern or daytime somnolence.
IV	Obstructive sleep apnoea (proven)

Patients

Our first eleven patients undergoing surgery for habitual snoring were studied. There were 0 men and women, aged 27-61 years (mean 43 years). The women weighed 70 kg and 83 kg; the men ranged from 66 kg to 108 kg (mean 88 kg). Five patients had symptoms of daytime somnolence and nocturnal apnoeas.

Table 2: Pre-Operative Grading of Snoring & Surgical Procedure Performed

	Surgery		
Grade of snoring Total	UPPP	UPPP & Nasal Surgery	Total
0	-	-	-
I	-	-	-
II	2	3	5
III	2	4	6
IV	-	-	-

Methods

The degree of snoring, the quality of sleep, and prevalence of daytime somnolence, episodes of sleep apnoea and symptoms of nasal obstruction were recorded. Snoring was graded into one of 5 categories of sleep disturbance based on the symptoms described by the patient (Table I).

Patients who fulfilled the criteria for OSA were excluded from this study.

Seven patients had nasal obstruction and appropriate. Nasal surgery were performed in addition to UPPP (Table II)

All patients had the UPPP as described by Fujita *et al. (1981).*

Follow-up ranged from 6 weeks to 10 months (median 3 months). Nasal regurgitation of fluids, nasal escape on phonation, snoring and sleep pattern was all documented post-operatively.

Surgical Technique of Uvulopalatopharyngoplasty

Premedication

Sedatives or narcotics are not used as premedication on patients with OSA because of the risk of precipitating apnoea.

Operative Technique

1- If nasal surgery is deemed necessary this is performed first.
2- The patient is intubated and positioned as for tonsillectomy.
3- If the patient has not already had a tonsillectomy this is performed first
4- A strip of tissue to be excised is marked on the anterior pillars and the free edge of the soft palate, including

the uvula. This is usually of the order of 1 cm. from the palatal margin. Sufficient tissue is removed to produce moderate tension on suturing to the cut edges of the tonsillar pillars. Pushing the soft palate against the posterior pharyngeal wall with a finger reveals the amount of redundant tissue to be excised from the soft palate margin . There is a small amount of resection from the posterior pillars on each side. This is usually about .5 cms

5- The cut edges are opposed with 3-0 synthetic absorbable interrupted sutures
6- If the posterior pharyngeal wall is tented, two vertical releasing incisions using cutting diathermy are performed.

Post-Operative Care

Patients are usually returned to the ward and carefully monitored for *8* hours postoperatively, or longer if the patient suffers from OSA. We obstruction in the first 24 hours. No sedatives are given in the post operative period.

Results

Relief of Snoring: All patients were cured of their symptomatic snoring
although mild or occasional snoring occurred in some. Five patients had complete abolition of snoring (Table III).

Complications: Patients remained in hospital for 3-6 days post-operatively.
At first the pain and discomfort in the throat were quite severe in some cases but all patients could comfortably eat a soft or normal diet by the time of discharge. No patient had palatal incompetence with speech. Only one patient had nasal regurgitation after the first week and this disappeared by the fourth week

Table 3 Summary of Patient Data & Response to Surgery

Grading					
Patient J Number	Sex	Age	Operation	Pre-op	Post-op
1	M	33	UPPP, CT	II	0
2	M	46	UPPP	II	1
3	M	34	UPPP	II	1
			Septoplasty		
4	M	40	UPPP	III	0
			Septoplasty		
5	F	34	UPPP, CT	II	1
6	F	61	UPPP	II	0
7	M	60	UPPP	III	0*
			Septoplasty		
8	M	27	UPPP	III	1
			Septoplasty		
9	M	46	UPPP	III	1
10	M	46	UPPP	III	1
11	M	45	UPPP	III	0
			Septoplasty		

(CT = Cautery of Inferior Turbinates)

* This patient continued to have symptoms of daytime sleepiness and nocturnal apnoeas.

Discussion

UPPP, with or without nasal surgery, is effective in the treatment of habitual, troublesome snoring in our experience. This is consistent with the good results reported by others(.Charles E Morgan3013) [11]

It could be argued that patients with nasal obstruction should have nasal surgery as an initial procedure, with UPPP reserved for those patients with persistence of snoring. A previous study has shown that some patients will require both to relieve snoring, irrespective of which procedure is done first (Fairbanks, 1984) [6]. In our study one patient had had a previous septoplasty with no relief of snoring. The post-operative morbidity for UPPP is not much less than for the combined procedure.

We believe that, where there is clinical evidence of both redundant oropharyngeal tissue and nasal obstruction, a combined procedure should be done, sparing the patient a possible second operation.

Grading is a convenient way to assess severity of snoring. Objective measurement of sleep disturbance requires polysomnography. This is costly and not readily available for all snorers so we are unable to compare our clinical grading (e.g. no history of apnoea) with objective confirmation. This lack of objectivity is a severe criticism of this study, but there is no doubting the satisfaction achieved by the patients and their bed-partners when they were interviewed post-operatively. Our past experience with nasal surgery alone for severe snorers is that it does not produce this degree of subjective success.

Patients shown to have OSA comprise a special, distinct group which is being considered separately. It remains to be seen how successful UPPP is in controlling symptomatic snoring long-term.(Minet JC etal1992) [12] B Viswanatha[13]

Conclusion

We conclude that:

1-UPPP is a good procedure to treat cases of habitual snoring with or without nasal surgery

2- further work is needed on this subject to strengthen this claim

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