

doi: 10.13241/j.cnki.pmb.2020.24.005

· 临床研究 ·

改良悬雍垂腭咽成形术联合鼻腔扩容手术对 OSAHS 患者睡眠质量、认知功能及生活质量的影响 *

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摘要 目的:探讨改良悬雍垂腭咽成形术(UPPP)联合鼻腔扩容手术对阻塞性睡眠呼吸暂停低通气综合征(OSAHS)患者认知功能、睡眠质量及生活质量的影响。方法:回顾性分析 2015 年 7 月~2019 年 12 月期间我院收治的 115 例 OSAHS 患者的临床资料,根据手术方式的不同分为 A 组(n=56,UPPP)和 B 组(n=59,UPPP 联合鼻腔扩容手术),比较两组患者疗效、睡眠质量、认知功能、生活质量及并发症发生率。结果:B 组治疗 2 个月后的临床总有效率高于 A 组($P<0.05$)。两组术后 2 个月匹兹堡睡眠质量指数(PSQI)评分、呼吸暂停低通气指数(AHI)、Epworth 嗜睡量表(ESS)评分均较术前降低,且 B 组低于 A 组($P<0.05$)。两组术后 2 个月社会功能、健康状况、躯体疼痛、生理职能、精神健康、生理机能、活力、情感职能维度评分均较术前升高,且 B 组高于 A 组($P<0.05$)。两组术后 2 个月简易智力状态量表(MMSE)评分均较术前升高,且 B 组高于 A 组($P<0.05$)。两组术后并发症发生率比较差异无统计学意义($P>0.05$)。结论:UPPP 联合鼻腔扩容手术治疗 OSAHS 患者,疗效确切,可有效改善患者睡眠质量及生活质量,改善患者认知功能,且不增加并发症发生率。

关键词:改良悬雍垂腭咽成形术;睡眠质量;阻塞性睡眠呼吸暂停低通气综合征;认知功能;生活质量;鼻腔扩容手术

中图分类号:R767.13 文献标识码:A 文章编号:1673-6273(2020)24-4623-04

Effects of Modified Uvulopalatopharyngoplasty Combined with Nasal Dilatation on Sleep Quality, Cognitive Function and Quality of Life in Patients with OSAHS*

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ABSTRACT Objective: To investigate the effect of modified uvulopalatopharyngoplasty (UPPP) combined with nasal dilatation on sleep quality, cognitive function and quality of life in patients with obstructive sleep apnea hypopnea syndrome (OSAHS). **Methods:** The clinical data of 115 OSAHS patients in our hospital from July 2015 to December 2019 were retrospectively selected. They were divided into group A (n=56, UPPP) and group B (n=59, UPPP combined with nasal dilatation) according to the different operation methods, the clinical efficacy, sleep quality, cognitive function, quality of life and the incidence of complications in the patients were compared between the two groups. **Results:** The total clinical effective rate of group B was higher than that of group A after 2 months treatment ($P<0.05$). The scores of pittsburgh sleep quality index (PSQI), apnea hypopnea index (AHI) and epworth sleepiness scale (ESS) in two groups were lower than those before operation, 2 months after operation ($P<0.05$). the scores of social function, health status, physical pain, physiological function, mental health, physiological function, vitality, emotional function and other dimensions in the two groups were higher than those before operation 2 months after operation, and the group B were higher than those in group A ($P<0.05$). The score of mini-mental state examination (MMSE) in the two groups was lower than that before operation 2 months after operation, and the group B was higher than that in group A ($P<0.05$). There was no significant difference in the incidence of postoperative complications between the two groups ($P>0.05$). **Conclusion:** The modified uvulopalatopharyngoplasty combined with nasal dilatation can effectively improve the quality of sleep and life of OSAHS patients, reduce cognitive impairment, and do not increase the incidence of complications.

Key words: Modified uvulopalatopharyngoplasty; Sleep quality; Obstructive sleep apnea hypopnea syndrome; Cognitive function; Quality of life; Nasal dilatation

Chinese Library Classification (CLC): R767.13 **Document code:** A

Article ID: 1673-6273(2020)24-4623-04

* 基金项目:国家重点研发计划项目(2019YBF1311605);西京医院学科助推项目(XJZT18MDT07)

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(收稿日期:2020-06-26 接受日期:2020-07-22)

前言

阻塞性睡眠呼吸暂停低通气综合征(OSAHS)是指患者睡眠时上气道塌陷阻塞,导致患者出现通气不足或呼吸暂停现象,影响机体正常运行^[1,2]。既往研究数据显示^[3],全球每天约有3000人的死亡与该病有关,成年人中 OSAHS 的发生率女性约为2%,男性约为4%。以往研究显示^[4],OSAHS 会对患者的心、脑、肺血管造成损害,若不及时采取正确的方式治疗,会对患者生命造成威胁。OSAHS 患者的咽喉腔通常处于狭窄状态,故常采用手术方式对咽喉腔进行微调整^[5]。改良悬雍垂腭咽成形术(UPPP)是治疗 OSAHS 的常用方法,可有效改善患者临床症状^[6],但单纯的行 UPPP 远期成功率只有 50%左右,仍需优化治疗。鼻腔扩容手术是新近发展起来的技术,也是治疗 OSAHS 的常用方法之一,鼻腔扩容手术可降低患者鼻阻力,加强鼻腔有效通气容积,进而减轻咽腔黏膜肿胀,降低咽腔顺应性,缓解咽腔塌陷,最终改善通气障碍^[7,8]。鉴于此,本研究通过对我院收治的部分 OSAHS 患者给予 UPPP 联合鼻腔扩容手术治疗,疗效确切,现整理如下。

1 资料与方法

1.1 临床资料

回顾性选取 2015 年 7 月~2019 年 12 月期间我院收治的 115 例 OSAHS 患者的临床资料。纳入标准:(1)诊断标准参考《阻塞性睡眠呼吸暂停低通气综合征诊治指南(2011 年修订版)》^[9],轻度:呼吸暂停低通气指数(AHI)5~15 次/h,中度: AHI16~30 次/h,重度: AHI>30 次/h;(2)均存在夜间睡眠打鼾,伴有白日嗜睡、呼吸暂停、乏力等症状;(3)均符合手术指征者;(4)手术操作均由同一组医师完成。排除标准:(1)有鼻部外伤史的患者;(2)既往服用镇静剂、安眠药等有可能影响睡眠的药物者;(3)近期出现上呼吸道感染患者;(4)重度心律失常患者;(5)精神疾病患者;(6)临床资料不完整者。上述患者根据手术方式的不同分为 A 组(n=56,UPPP)和 B 组(n=59,UPPP 联合鼻腔扩容手术),其中 A 组男 29 例,女 27 例,年龄 34~67 岁,平均(49.86±5.19)岁;平均体质指数(23.71±1.16) kg/m²;病情程度:轻度 21 例,中度 20 例,重度 15 例。B 组男 32 例,女 27 例,年龄 33~69 岁,平均(48.97±4.83)岁;平均体质指数(23.29±1.06) kg/m²;病情程度:轻度 23 例,中度 18 例,重度 18 例。两组一般资料对比无差异($P>0.05$),临床基线资料均衡可比。

1.2 方法

A 组给予 UPPP,全麻,选取双侧上颌磨牙连线平面作为切除最高点,沿悬雍垂两侧用电刀作弧形切口,切开扁桃体舌腭弓与软腭咽面黏膜切口相连,将软腭及舌腭咽弓部分多余黏膜组织切除,术后舌咽腭弓上部缝合,下部扁桃体创面不缝合。随后沿悬雍垂侧切除多余脂肪,黏膜对位缝合。B 组给予 UPPP 联合鼻腔扩容手术,采用扁桃体剥离器压迫下鼻甲内侧面。对双下甲骨骨折外移后鼻腔空间明显扩大满意者可不进行鼻腔电凝。若下甲肥大,则根据下甲黏膜的收敛程度给予下甲烧灼。鼻腔扩容术完成后,进行 UPPP。两组患者术后均以抗生素静脉滴注 2 d,鼻腔局部使用雷诺考特鼻喷雾剂 2 周。

1.3 观察指标

(1)两组术后均以门诊复查的形式随访 2 个月,观察两组患者临床总有效率。依据中华医学会呼吸病学分会睡眠呼吸障碍学组制定的标准判断^[9]:治愈:AHI<5 次/h,临床症状基本消失,血氧饱和度(SaO₂)>90%。显效:症状明显减轻,AHI<20 次/h 或 AHI 降低 50%以上,SaO₂较正常值减少 25%。有效:症状有所减轻,AHI 降低≥25%。无效:AHI 降低<25%,症状无明显变化。总有效率=治愈率+显效率+有效率。(2)于术前、术后 2 个月采用 AHI、匹兹堡睡眠质量指数(PSQI)^[10]评分、Epworth 嗜睡量表(ESS)^[11] 评分评价患者临床症状及睡眠情况。其中 AHI 为平均每小时睡眠中呼吸暂停和低通气的次数;ESS 共有 8 个条目,每个条目评分标准 0~3 分评分,得分越高睡眠症状越重;PSQI 包括 7 个项目,每个项目 0~3 分,得分越高说明睡眠质量越差。(3)记录两组术后并发症发生情况。(4)于术前、术后 2 个月采用健康调查简表(SF-36)^[12]评价患者生活质量,SF-36 分 8 个维度,包括健康状况、社会功能、躯体疼痛、活力、精神健康、生理职能、生理机能、情感职能。每个维度总分为 100 分,分数越高生活质量越高。(5)于术前、术后 2 个月采用简易智力状态量表(MMSE)^[13]评价患者认知功能,其中 MMSE 包括注意力、回忆能力、语言能力、定向力、计算力、记忆力 6 个方面,总分 30 分,评分越高说明,认知功能越佳。

1.4 统计学方法

本研究数据均采用 SPSS26.0 软件进行统计学分析,计数资料以率或比表示,采用 χ^2 检验,计量资料用($\bar{x} \pm s$)表示,采用 t 检验, $P<0.05$ 表明差异具有统计学意义。

2 结果

2.1 疗效比较

B 组治疗 2 个月后的临床总有效率高 A 组($P<0.05$),详见表 1。

表 1 两组临床疗效比较 例(%)

Table 1 Comparison of clinical effects between the two groups n(%)

Groups	Cure	Obvious effect	Effective	Invalid	Total efficiency
Group A (n=56)	8(14.29)	17(30.36)	16(28.57)	15(26.79)	41(73.21)
Group B (n=59)	13(22.03)	21(35.59)	18(30.51)	7(11.86)	52(88.14)
χ^2					4.135
P					0.042

2.2 两组 AHI、PSQI、ESS 比较

两组术前 AHI、PSQI、ESS 比较差异无统计学意义($P>0.05$),

两组术后 2 个月 AHI、PSQI、ESS 均较术前降低,且 B 组低于 A 组($P<0.05$),详见表 2。

表 2 两组 AHI、PSQI、ESS 比较($\bar{x} \pm s$)
Table 2 Comparison of AHI, PSQI and ESS between two groups($\bar{x} \pm s$)

Groups	AHI (time/h)		PSQI (score)		ESS (score)	
	Before operation	2 months after operation	Before operation	2 months after operation	Before operation	2 months after operation
Group A (n=56)	44.94 $\pm$ 4.90	23.85 $\pm$ 2.01*	15.58 $\pm$ 2.13	11.47 $\pm$ 1.96*	14.17 $\pm$ 1.81	9.76 $\pm$ 1.31*
Group B (n=59)	44.88 $\pm$ 5.34	12.74 $\pm$ 2.25*	15.67 $\pm$ 2.04	6.18 $\pm$ 1.82*	14.06 $\pm$ 1.92	5.38 $\pm$ 1.27*
t	0.063	27.872	0.231	15.007	0.316	18.205
P	0.950	0.000	0.817	0.000	0.753	0.000

Notes: Compared with before operation, * $P < 0.05$.

2.3 两组生活质量比较

两组术前社会功能、健康状况、躯体疼痛、生理职能、精神健康、生理机能、活力、情感职能维度评分比较差异无统计学意

义($P > 0.05$), 两组术后 2 个月上述维度评分均较术前升高, 且 B 组高于 A 组($P < 0.05$), 详见表 3。

表 3 两组生活质量比较($\bar{x} \pm s$, 分)Table 3 Comparison of quality of life between the two groups($\bar{x} \pm s$, score)

Groups	Point of time	Social function	Emotional function	Health	Somatic pain	Physiological function	Mental health	Vitality	Physiological function
Group A (n=56)	Before operation	50.02 $\pm$ 6.17	55.82 $\pm$ 6.13	54.53 $\pm$ 6.14	51.46 $\pm$ 6.72	52.31 $\pm$ 5.07	51.30 $\pm$ 6.16	53.21 $\pm$ 5.73	49.45 $\pm$ 6.44
	2 months after operation	69.88 $\pm$ 5.18*	71.71 $\pm$ 8.21*	68.51 $\pm$ 7.25*	69.37 $\pm$ 6.15*	70.32 $\pm$ 6.05*	72.25 $\pm$ 7.35*	71.28 $\pm$ 7.96*	73.23 $\pm$ 6.38*
	Before operation	49.69 $\pm$ 6.26	56.75 $\pm$ 8.63	54.78 $\pm$ 5.18	51.25 $\pm$ 7.11	52.74 $\pm$ 5.82	51.12 $\pm$ 5.61	52.79 $\pm$ 5.64	49.86 $\pm$ 7.08
Group B (n=59)	2 months after operation	80.26 $\pm$ 6.41**	83.46 $\pm$ 9.34**	82.53 $\pm$ 7.68**	83.95 $\pm$ 8.92**	81.76 $\pm$ 6.73**	83.44 $\pm$ 7.66**	83.62 $\pm$ 9.15**	85.46 $\pm$ 9.28**

Notes: Compared with before operation, * $P < 0.05$; comparison with group A, ** $P < 0.05$.

2.4 两组认知功能比较

A 组术前 MMSE 评分为 (26.17 $\pm$ 0.31) 分, 术后 2 个月 MMSE 评分为 (28.12 $\pm$ 0.29) 分; B 组术前 MMSE 评分为 (26.21 $\pm$ 0.28) 分, 术后 2 个月 MMSE 评分为 (29.35 $\pm$ 0.26) 分; 两组术后 1dMMSE 评分均较术前升高 ($t=34.376, 63.122$, 均

$P=0.000$), 且 B 组高于 A 组 ($t=23.973, P=0.000$)。

2.5 两组并发症发生率比较

两组术后并发症发生率比较差异无统计学意义($P > 0.05$), 详见表 4。

表 4 两组并发症发生率比较例(%)

Table 4 Comparison of the incidence of complications between the two groups cases(%)

Groups	Choking cough	Asphyxia	Hemorrhage	Hypopharyngeal incompetence	Total incidence
Group A (n=56)	2(3.57)	1(1.79)	3(5.36)	1(1.79)	7(12.50)
Group B (n=59)	2(3.39)	1(1.69)	2(3.39)	0(0.00)	5(8.47)
χ^2					0.498
P					0.480

3 讨论

OSAHS 为以上气道完全或部分阻塞、高碳酸血症、夜间睡眠中因呼吸中枢驱动降低、代谢障碍、伴低氧血症及机体各系统一系列改变的综合征^[14,15]。OSAHS 发病后, 可导致患者睡眠质量低, 日间功能受到影响, 进而降低患者生活质量^[16,17]。同时由于长时间处于低通气状态, 易导致心血管疾病的发生, 认知功能受损, 影响其生命安全。OSAHS 的发病因素复杂, 既往研

究发现鼻阻塞是 OSAHS 发生的危险因素^[18]。正常睡眠状态下, 经鼻呼吸的上气道阻力低于经口呼吸, 故而机体在睡眠状态时主要通过鼻呼吸^[19]。而鼻阻塞的 OSAHS 患者通常伴有鼻中隔偏曲、下鼻甲和(或)中鼻甲肥厚、钩突、中鼻甲等结构异常, 以上种种因素引起的鼻阻塞可引起鼻阻力升高, 咽部扩张肌做功加大, 增加呼吸用力, 产生咽腔负压增大, 导致上气道塌陷^[20,21]。同时鼻阻力增高触发鼻肺反射, 通过不正常的鼻三叉神经激活, 降低肺通气量^[22]。现临床上多采取手术治疗该病, 主要治疗

目标在于增加肺通气量,帮助患者纠正其上气道塌陷情况,帮助患者扩张上呼吸道,恢复呼吸通气指数。UPPP、鼻腔扩容手术均是治疗 OSAHS 的常用术式,UPPP 可通过缓解上呼吸道狭窄症状来控制病情^[23],鼻腔扩容可以促进患者呼吸道通畅来恢复患者的通气功能^[24]。但两种术式单独使用时远期效果均一般,疗效有待提升。故本研究通过探讨两种术式联合治疗 OSAHS 患者,以期明确联合治疗能否进一步改善患者治疗效果。

研究结果显示,B 组治疗 2 个月后 AHI、PSQI、ESS 改善情况优于 A 组,且临床总有效率高于 A 组。可见 UPPP 联合鼻腔扩容手术治疗 OSAHS 患者,可有效改善患者呼吸症状,提高其睡眠质量,疗效较好。可能是在治疗时先为患者进行鼻腔扩容,再进行 UPPP,可有效扩大鼻腔容积、矫正鼻腔异常结构、恢复双侧通气的对称性,纠正鼻腔病理性改变,改善多平面阻塞,并改善咽腔塌陷,进而减轻鼻阻力,改善患者缺氧症状,增加通气,促进微循环,恢复健康的睡眠结构^[25,26]。而本研究中两组生活质量均有所改善,且 UPPP 联合鼻腔扩容手术患者的改善效果更佳,主要是因为两种手术联合治疗患者通气功能逐渐恢复,睡眠质量提高,疾病对患者日间功能的影响逐渐减轻,患者正常的工作、学习及其相关社交受到的影响减轻,进而有效提高其生活质量^[27,28]。OSAHS 患者由于夜间长时间的低氧血症、睡眠剥夺,可导致患者血清脑源性神经营养因子下降,进而引起认知功能障碍。故而本研究将患者认知功能也作为考察指标之一。研究结果显示,UPPP 联合鼻腔扩容手术治疗可有效减轻认知功能损害,主要可能是因为两种术式联合治疗,在改善低氧血症、睡眠剥夺等方面效果显著,进而减少对大脑额叶、颞叶及海马等与认知功能密切相关的脑区损害,最终改善患者认知功能^[29,30]。此外,两组并发症发生率对比未见统计学差异,可见两种术式联合治疗安全可靠。值得注意的是,对于联合行鼻腔扩容手术者,鼻部手术创伤引起的术后应激反应也是临床医师需关注的重点,在保证不出现大出血情况下,应尽早抽取鼻腔填塞物,以减轻局部反应。

综上所述,UPPP 联合鼻腔扩容手术治疗 OSAHS 患者,疗效确切,可有效改善患者睡眠质量及生活质量,改善患者认知功能,且不增加并发症发生率。

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