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手术治疗摩洛哥儿童睡眠呼吸障碍的临床研究

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摘要 目的:观察鼻内镜下腺样体切除术或联合扁桃体切除术对摩洛哥儿童睡眠呼吸障碍的疗效,探讨儿童睡眠呼吸障碍治疗的手术适应症。**方法:**136 例病例分成 2 组,治疗组 85 例睡眠呼吸障碍伴慢性扁桃体炎、或扁桃体Ⅲ°肥大的儿童,行鼻内镜下腺样体切除加扁桃体切除术;对照组 51 例睡眠呼吸障碍伴单纯扁桃体Ⅱ°肥大的儿童,采用鼻内镜下腺样体切除,术后随访 3 个月。**结果:**治疗组总有效率为 100%(85/85),对照组 84.31%(43/51),差异有统计学意义($P < 0.05$);两组患儿的 Conners 儿童行为量表评分较术前明显下降,差异有统计学意义($P < 0.05$)。**结论:**鼻内镜下腺样体切除术联合扁桃体切除术,明显改善患儿睡眠和呼吸,生活质量明显提高,是治疗摩洛哥儿童睡眠呼吸障碍的一线治疗方案。

关键词:睡眠呼吸障碍;鼻内镜下腺样体切除术;扁桃体切除术;摩洛哥儿童

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Clinical Study of Endoscopic Adenoidectomy in Treatment of Pediatric Sleep Disordered Breathing in Morocco

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ABSTRACT Objective: To observe the clinical effect of endoscopic adenoidectomy or Combined with tonsillectomy in treatment of pediatric sleep disordered breathing (SDB), and explore the surgical indications of pediatric SDB in morocco. **Methods:** 136 cases were separated into two groups, the treatment group (85 cases) of pediatric SDB with chronic tonsillitis or tonsill III° hypertrophy, were operated by endoscope-assisted adenoidectomy combined with tonsillectomy, the control group (51 cases) of pediatric SDB with tonsill II° hypertrophy simply, were operated by endoscope-assisted adenoidectomy. The two groups were followed up for 3 months. **Results:** The total effective rate of the treatment group was 100% (85/85), while the control group was 84.31 % (43/51), the difference was statistically significant ($P < 0.05$). Two groups' Conners behavior rating scale significantly decreased than those before operated, the difference was statistically significant ($P < 0.05$). **Conclusion:** Endoscopic Adenoidectomy combined with tonsillectomy offers significant improvements in children's sleep and breathing, children quality of life improved significantly, making it a valuable first-line treatment for pediatric SDB in Morocco.

Key words: Sleep Disordered Breathing; Endoscopic Adenoidectomy; Tonsillectomy; Moroccan Children

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前言

睡眠呼吸障碍(sleep disordered breathing, SDB)在少年儿童中是常见的一组睡眠障碍性疾病^[1],主要表现为睡眠打鼾、呼吸费力、呼吸暂停和睡眠紊乱,还可伴有夜惊、遗尿^[2]、多动、发育迟缓^[3]、营养不良、代谢异常、行为异常和认知能力受损^[4],长期发作可有高血压、心脏扩大等,严重影响患儿身心健康、智力发育和生活质量^[5,6]。摩洛哥内陆山区,医疗条件简陋,医院缺乏基

本的诊疗仪器和器械,更缺乏如电测听、多导睡眠监测仪等专业检查设备,临床诊疗仅靠普通问诊和查体,给 SDB 的治疗和预后增添了难度。回顾性分析 2012 年 1 月~2013 年 6 月期间就诊于拉西迪亚省穆莱 - 阿里 - 谢里夫医院的 136 例 SDB 患儿,选择性地实施鼻内镜下腺样体切除术(或)加扁桃体切除术,取得明显疗效,现报道如下。

1 资料与方法

1.1 一般资料

收集 2012 年 1 月~2013 年 6 月穆莱 - 阿里 - 谢里夫医院治疗的 136 例 SDB 儿童,其中男 97 例,女 39 例,年龄 2.5~12 岁,平均年龄(5.4 ± 2.2)岁,病程 6 个月~5.5 年。诊断标准:①临床表现:睡眠打鼾、呼吸费力、呼吸暂停和睡眠紊乱、注意力

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不集中、多动、记忆力下降等。②所有儿童均进行了鼻咽x线侧位片检查,测量腺样体厚度(A)和鼻咽腔的厚度(N),符合A/N比值^[7]>0.7。③排除标准:儿童分泌性中耳炎、鼻中隔偏曲、鼻息肉、颅面结构畸形、喉部畸形等。

1.2 儿童行为量表的评估^[8]

向家长发放一份简明症状问卷,按不同程度分别打分:无:0分;稍有:1分;较多:2分;很多:3分。详细记录Conners儿童行为量表,询问下列问题①活动过多,不消停;②情绪兴奋激动,易冲动;③激惹其他儿童;④做事不能善始善终;⑤坐立不安;⑥精神不集中,注意力易分散;⑦须立即满足要求,易气馁;⑧情绪变化快,反应激烈;⑨经常易哭闹;⑩勃然大怒或发生意料之外的行为。该行为量表可评定SDB儿童注意缺陷多动障碍,以上各项总分超过10分具诊断意义。

1.3 治疗方法

1.3.1 治疗组 患儿取仰卧,经口插管,全身麻醉。肩部垫高,张口器撑开暴露口咽部,先行扁桃体挤切术,摘除双侧扁桃体,妥善止血。再行鼻内镜下腺样体切除术,双侧鼻孔滴麻黄素液,用导尿管悬吊软腭。吸净鼻腔、口腔分泌物,选择角度相当鼻内镜,经口或经鼻,注意观察腺样体形状、大小,及其与咽鼓管咽口的毗邻关系,鼻内镜监视下,将增殖体刮匙置于腺样体的上端和后鼻孔的后端、咽鼓管的内侧,适当用力将腺样体刮除。取合适大小的纱布棉球压迫鼻咽部起到止血目的,必要时电凝止血。对重要结构周围的残余组织和突入后鼻孔的腺体,可使用

90°鼻咽活检钳在内镜引导下予以清除;查术野无活动性出血,抽出导尿管,吸引器清理咽腔及鼻腔。术后若无特殊情况,一般当日出院,门诊定期随访。术后常规口服阿莫西林3天预防感染。

1.3.2 对照组 患儿全身麻醉下行鼻内镜腺样体切除术,未切除扁桃体,当日出院,门诊定期随访,术后常规口服阿莫西林3天预防感染。

1.4 疗效判定标准 结合摩洛哥国情,参照中国《儿童阻塞性睡眠呼吸暂停低通气综合征诊疗指南草案(乌鲁木齐)》标准^[9],疗效评定标准:①治愈:临床症状基本消失;②显效:临床症状明显好转;③有效:临床症状减轻;④无效:无明显变化或加重。

1.5 统计学处理

采用SPSS12.0统计软件进行数据分析,计数资料以率表示,采用 χ^2 检验;计量资料以($\bar{x} \pm s$)表示,采用t检验。 $P < 0.05$ 为差异有统计学意义。

2 结果

2.1 两组病例的临床疗效比较

术后3个月评估,两组患儿术后睡眠打鼾、张口呼吸、呼吸费力、呼吸暂停和睡眠紊乱等症状,均得到明显改善。治疗组总有效率100%(85/85),对照组84.31%(43/51),差异有统计学意义($P < 0.05$),见表1。治疗组和对照组,治疗中均未出现严重手术并发症。

表1 两组病例临床疗效比较

Table1 The comparison of two groups's cases of clinical curative effect

组别 Groups	例数 n	治愈(%) Cure	显效(%) Exact effect	有效(%) Effective	无效(%) Invalid	总有效率(%) Total effective
治疗组 Treatment group	85	83.53(71/85)	14.12(12/85)	2.35(2/85)	0.0(0/85)	100.00(85/85)
对照组 Control group	51	29.41(15/51)	37.25(19/51)	17.65(9/51)	15.69(8/51)	84.31(43/51)

2.2 两组病例术前、术后的Conners儿童行为量表评分比较

治疗前,患儿注意缺陷多动障碍,影响患儿生活质量;3个月,两组患儿的Conners儿童行为量表评分均明显下降,生

活质量明显提高。治疗前、治疗后,差异有统计学意义($P < 0.05$),见表2。

表2 两组病例治疗前后Conners儿童行为量表评分比较($\bar{x} \pm s$)

Table2 The comparison of children Conners behavior rating scale before and after treatment

组别 groups	例数 n	治疗前 before treatment	治疗后 after treatment
治疗组 treatment group	85	14.1 $\pm$ 3.9	6.8 $\pm$ 3.2
对照组 control group	51	12.9 $\pm$ 3.6	8.7 $\pm$ 3.3

3 讨论

肥胖、鼻中隔偏曲、鼻-鼻窦炎、颌面发育畸形、巨舌症、喉软化症、神经肌肉疾患等各种因素均可引起儿童SDB,儿童SDB的主要病因(约占90%)是扁桃体与腺样体肥大,尤其是腺样体的肥大。

儿童免疫功能尚未健全,易反复发生上呼吸道感染,使咽部淋巴组织增生,扁桃体、腺样体增生、肥大,可引起上呼吸道机械性狭窄、阻塞。患儿吸气时上呼吸道阻力增加,咽腔形成负

压,软腭和舌根向咽后壁贴近,在仰卧位时软腭和舌根后坠,导致睡眠呼吸不畅、低通气综合征;长期张口呼吸,空气不能经过鼻腔的过滤湿化,引起口咽部干燥,削弱了局部抵抗力;反复的呼吸道感染使扁桃体、腺样体持续肿大,睡眠呼吸障碍随之加重,恶性循环。长期缺氧^[10],导致儿童学习障碍、发育迟缓等,甚至产生胸廓畸形、心脏肥大^[11]等严重并发症,严重影响患儿身心健康、智力发育和生活质量。口咽部有丰富的淋巴组织,切除扁桃体或腺样体并不会明显影响患儿的免疫功能,对于SDB患者宜积极进行手术治疗,及早手术切除以利于相关疾病的转

归^[12]。在美国本土,15岁以下儿童以复发性扁桃体炎和儿童阻塞性睡眠呼吸暂停综合征为手术指征,每年施行超过53万例扁桃体+腺样体切除术^[13]。

摩洛哥内陆地区,医疗条件简陋,医院缺乏必备的诊疗仪器和器械,没有切割吸引器、射频消融、等离子、超声刀等,更缺乏如电测听、多导睡眠监测仪等专业检查设备,给临床诊断和治疗带来困难。儿童SDB发病率较高,可达20%^[14],主要包括原发性鼾症、上气道阻力综合征和儿童睡眠呼吸暂停低通气综合征(OSAHS),按照流行病学统计,OSAHS在儿童中约为2%^[15],拉西迪亚地区唯一的省立医院——穆莱-阿里-谢里夫医院每年的分娩量超6000人次计算,那么该省每年新增儿童OSAHS患者就要百余人次,总计需手术治疗的儿童SDB数量更多。摩洛哥实行“医药分家”的医疗卫生体制,药品需病人自费购买,国家按照住院人数给予公立医院适当的财政补贴,贫困人口免住院费、免手术医疗费,疾病的诊断和治疗规范和流程与国内迥异;摩洛哥民众的潜意识里,一旦患病,若能采用手术治疗就优先选择手术,一旦家长发现患儿睡眠呼吸障碍问题,即强烈要求医生进行手术治疗。

PSG检查是当前诊断睡眠呼吸疾病的金标准^[16],可明确睡眠呼吸疾病的诊断、评价疾病严重程度、评估手术效果;鉴别中枢性呼吸暂停及肺泡低通气、单纯鼾症及非呼吸相关性睡眠障碍。问题是,不同的睡眠研究中心和大型医院,使用不同的设备、用不同的标准定义去积极研究儿童睡眠呼吸疾病。而发展中国家或经济落后地区,却无法配备PSG检查仪等昂贵仪器,在摩洛哥偏远地区开展援外医疗,临床医生只能凭借全面详尽的病史、详细的耳鼻喉科体格检查、结合鼻咽部x线侧位摄片或纤维内镜检查,综合性的评估儿童SDB,并予以恰当的治疗。

鼻内镜下腺样体切除术,手术在直视下进行,手术视野清晰^[17]。术中能评估腺样体的大小,同周围结构的关系,具有微创、出血少、止血彻底、减少并发症,避免手术盲目性所致鼻咽部正常组织损伤,可避免损伤咽鼓管,增加了手术的安全性和准确性;传统盲刮术对侵入到咽鼓管咽口、圆枕、两侧咽隐窝、鼻咽顶壁接近后鼻孔处及凸入鼻腔内等隐蔽处的腺样体很难切除干净,内镜下腺样体手术避免了传统手术的缺点,不易复发^[18]。

正常腺样体和扁桃体内有各种不同发育时期的淋巴细胞,对特异性抗原、病毒、细菌具有免疫调节作用,是儿童重要的防御免疫器官。本研究中,治疗组的SDB患儿同时伴有反复发作的扁桃体炎病史,或者扁桃体重度肥大,腺样体切除术联合扁桃体切除术,有效解除上气道阻塞,取得很好疗效。对照组中SDB患儿,对扁桃体中度肥大,没有扁桃体炎反复发作史的SDB儿童,为了保护患儿扁桃体免疫功能而未行扁桃体切除,行单纯腺样体切除术,明显减轻了临床症状;术后随访中有部分患儿家长感觉患儿睡眠仍有障碍,临床效果欠理想,要求医生再次行扁桃体切除术。因此,结合摩洛哥的国情、当地社会医疗制度、家长受教育程度,对儿童SDB应放宽手术指征,除常规腺样体切除术外,对中度以上肥大的扁桃体,即使平时没有扁桃体炎病史,亦应予以切除。

对合并肥胖的儿童SDB,术后适度控制体重亦是治疗的重点之一;对伴有鼻-鼻窦炎的儿童SDB术后应配合适当的药

物治疗^[19],鼻内糖皮质激素不仅能缩小腺样体体积,还可控制鼻黏膜炎症和过敏,减轻鼻腔黏膜充血,从而显著降低儿童鼻腔气道阻力;SDB患儿腺样体扁桃体切除术后,张口呼吸、睡眠紊乱等可能依然存在,应长期随访,并阻止颌面发育畸形及睡眠呼吸障碍的复发。

综上所述,鼻内镜下腺样体切除术和扁桃体切除术,目前依然是治疗儿童SDB的主要手术方法^[20],有利于儿童身心健康、智力发育,提高生活质量。在摩洛哥偏远地区开展援外医疗工作,应适当放宽SDB手术适应症,并采用综合性的治疗手段,以获得更好的满意度;对SDB患儿和家长应加强宣教和随访,提高家长对儿童SDB危害的认知度。不足之处,开展援外医疗工作服务期短,只能观察近期疗效,无法做到对患儿的长期跟踪随访。

参考文献(References)

- [1] Edward O Bixler, Alexandros N Vgontzas, Hung-Mo Lin, et al. Sleep disordered breathing in children in a general population sample: prevalence and risk factors[J]. Sleep, 2009, 32(6): 731-736
- [2] Alexandra Bascom, Todd Penney, Mike Metcalfe, et al. High risk of sleep disordered breathing in the enuresis population [J]. The Journal of urology, 2011, 186(4 Suppl):1710-1713
- [3] 侯瑾,康全清,郑国玺. 儿童阻塞性睡眠呼吸暂停低通气综合征与生长发育迟缓的关系[J]. 中华耳鼻咽喉头颈外科杂志, 2008, 43(3): 174-178
Hou Jin, Kang Quan-qing, Zheng Guo-xi. Growth retardation in children with obstructive sleep apnea hypopnea syndrome[J]. Chinese Journal of Otorhinolaryngology Head and Neck Surgery, 2008, 43(3):174-178
- [4] Matthew H Scullin, Claudia Ornelas, Hawley E Montgomery-Downs. Risk for sleep-disordered breathing and home and classroom behavior in Hispanic preschoolers [J]. Behavioral sleep medicine, 2011, 9(3): 194-207
- [5] 何培杰,鲍欢,肖宽林. 睡眠呼吸障碍儿童疾病特异性生存质量评价[J]. 中华全科医师杂志, 2008, 7(3):161-163
He Pei-jie, Bao Huan, Xiao Kuan-lin. Evaluation for disease-specific quality of life in children with sleep-disordered breathing [J]. Chinese Journal of General Practitioners, 2008, 7(3): 161-163
- [6] Rosen CL, Palermo TM, Larkin EK, et al. Health-related quality of life and sleep-disordered breathing in children[J]. Sleep, 2002, 25(6): 657-666
- [7] 张虹,李晓明,肖淑芬,等. 儿童腺样体肥大所致鼻气道阻塞的客观评估[J]. 临床耳鼻咽喉头颈外科杂志, 2010, 24(23):1057-1059
Zhang Hong, Li Xiao-ming, Xiao Shu-fen, et al. An objective evaluation of nasal airway obstruction by enlarged adenoids in children[J]. Journal of Clinical Otorhinolaryngology Head and Neck Surgery, 2010, 24(23): 1057-1059
- [8] 王岩,李延忠,王欣. 阻塞性睡眠呼吸暂停低通气综合征儿童行为异常与血清C反应蛋白的相关性研究 [J]. 临床耳鼻咽喉头颈外科杂志, 2009, 24(23):1120-1122
Wang Yan, Li Yan-zhong, Wang Xin. The relationship between the abnormal behavior and serum C-reactive protein in children with obstructive sleep apnea-hypopnea syndrome [J]. Journal of Clinical Otorhinolaryngology Head and Neck Surgery, 2009, 24(23):1120-1122

- [9] 中华耳鼻咽喉头颈外科杂志编委会, 中华医学会耳鼻咽喉科学分会. 儿童阻塞性睡眠呼吸暂停低通气综合征诊疗指南草案(乌鲁木齐)[J]. 中华耳鼻咽喉头颈外科杂志, 2007, 42(2):83-84
The Chinese magazine editorial board of otolaryngology head and neck surgery, The Chinese medical association otolaryngology branch of science. Children with obstructive sleep apnea hypopnea syndrome draft guidelines[J]. Chinese Journal of Otorhinolaryngology Head and Neck Surgery, 2007, 42(2): 83-84
- [10] Galip Akhan, Sibel Ayik, Murat Songu. Cerebral oxygenation during sleep in patients with obstructive sleep apnea: a near-infrared spectroscopy study [J]. Journal of otolaryngology-head & neck surgery, 2012, 41(6):437-442
- [11] Corey J Leinum, John M Dopp, Barbara J Morgan. Sleep-disordered breathing and obesity: pathophysiology, complications, and treatment [J]. Nutrition in clinical practice : official publication of the American Society for Parenteral and Enteral Nutrition, 2009, 24(6): 675-687
- [12] M T A van den Aardweg, M M Rovers, A Kraal, et al. Current indications for adenoidectomy in a sample of children in the Netherlands [J]. B-ENT, 2010, 6(1):15-18
- [13] Sharon D Ramos, Shraddha Mukerji, Harold S Pine. Tonsillectomy and adenoidectomy [J]. Pediatric clinics of North America, 2013, 60(4):793-807
- [14] Jennum P, Riha RL. Epidemiology of sleep apnoea/hypopnoea syndrome and sleep-disordered breathing [J]. The European Respiratory Journal, 2009, 33(4):907-914
- [15] Liner LH, Marcus CL. Ventilatory management of sleep-disordered breathing in children[J]. Curr Opin Pediatr, 2006, 18(3): 272-276
- [16] Yellon RF. Is polysomnography required prior to tonsillectomy and adenoidectomy for diagnosis of obstructive sleep apnea versus mild sleep disordered breathing in children[J]. The Laryngoscope, 2010, 120(5):868-869
- [17] Songu M, Altay CA, Dibelli ZH, Adibelli H. Endoscopic-assisted versus curettage adenoidectomy: a prospective, randomized, double-blind study with objective outcome measures [J]. The Laryngoscope, 2010, 120(9):1895-1899
- [18] 冯云海, 殷善开. 鼻内镜下腺样体切除术与常规腺样体刮除术的疗效比较[J]. 临床耳鼻咽喉科杂志, 2006, 20(2):54-56
Feng Yun-hai, Yin Shan-kai. Comparison of the powered-assisted adenoidectomy with adenoid curette adenoidectomy[J]. Journal of Clinical Otorhinolaryngology, 2006, 20(2):54-56
- [19] 沈翎, 许杨杨, 林宗通, 等. 儿童阻塞性睡眠呼吸暂停低通气综合征与鼻部疾病关系的初步研究 [J]. 中华耳鼻咽喉头颈外科杂志, 2013, 48(6): 507-510
Shen Ling, Xu Yang-yang, Lin Zong-tong, et al. Relationship between children's obstructive sleep apnea hypopnea syndrome and nasal diseases [J]. Chinese Journal of Otorhinolaryngology Head and Neck Surgery, 2013, 48(6):507-510
- [20] 陈超, 许政敏. 儿童慢性鼻窦炎药物与手术治疗疗效对比[J]. 中国眼耳鼻喉科杂志, 2011, 11(5):295-297
Chen Chao, Xu Zheng-min. Comparison of therapeutic effect of medicine and surgery on pediatric chronic sinusitis [J]. Chinese Journal of ophthalmology and otorhinolaryngology, 2011, 11(5):295-297
- (上接第 3282 页)
- [14] Taylor-Robinson D, Horner PJ. The role of Mycoplasma genitalium in non-gonococcal urethritis[J]. Sex Transm Infect, 2001, 77(4): 229-231
- [15] 吴移谋, 叶元康. 支原体学[M]. 北京: 人民卫生出版社, 2008:134-142
Wu Yi-mou, Ye Yuan-kang. Mycoplasmaology[M]. Beijing: The people's medical publishing house, 2008: 134-142
- [16] Xiao L, Glass JI, Paralanov V, et al. Detection and characterization of human Ureaplasma species and serovars by real-time PCR [J]. J Clin Microbiol, 2010, 48(8): 2715-2723
- [17] Centers for Disease Control and Prevention. Sexually transmitted diseases treatment guidelines 2002[J]. MMWR Recomm Rep, 2002, 51(RR-6):1-78
- [18] Kasper DC, Mechtler TP, Reischer GH, et al. The bacterial load of Ureaplasma parvum in amniotic fluid is correlated with an increased intrauterine inflammatory response [J]. Diagn Microbiol Infect Dis, 2010, 67(2): 117-210
- [19] Washington E, Berg AO. Preventing and managing pelvic inflammatory disease: key questions, practices, and evidence [J]. J Fam Pract, 1996, 43(3): 283-293
- [20] Bayraktar MR, Ozerol IH, Gucluer N, et al. Prevalence and antibiotic susceptibility of Mycoplasma hominis and Ureaplasma urealyticum in pregnant women[J]. Int J Infect Dis, 2010, 14(2): 90-95