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## 内镜揭盖术与唇齿沟径路切除术治疗鼻前庭囊肿患者的疗效及对炎症因子的影响\*

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**摘要 目的:** 研究内镜揭盖术(ER)与唇齿沟径路切除术(LSPR)治疗鼻前庭囊肿(NVC)患者的临床疗效及对炎症因子的影响。**方法:** 选择2015年7月至2017年6月来我院就诊的NVC患者106例,依据随机数字表法分别纳入ER组(53例)及LSPR组(53例)。ER组行ER治疗,LSPR组行唇齿沟径路切除术。观察两组术中出血量、手术时间、术后创口愈合时间、术后24h疼痛评分及上皮化时间,两组术前、术后7d白细胞介素-6(IL-6)、白细胞介素-8(IL-8)、肿瘤坏死因子- $\alpha$ (TNF- $\alpha$ )、C-反应蛋白(CRP)水平,两组术后并发症及复发情况。**结果:** ER组术中出血量、手术时间、术后创口愈合时间、术后24h疼痛评分及上皮化时间等手术指标均低于LSPR组,差异有统计学意义( $P < 0.05$ );术后7d,两组IL-6、IL-8、TNF- $\alpha$ 及CRP水平均低于治疗前,且ER组低于LSPR组,差异有统计学意义( $P < 0.05$ );ER组术后并发症发生率7.55%、术后复发率3.77%,均低于LSPR组的22.64%、20.75%,差异均有统计学意义( $P < 0.05$ )。**结论:** 与LSPR相比较,ER治疗NVC创伤小,恢复快,可有效降低术后炎症因子水平,术后并发症及复发率低,值得临床应用。

**关键词:** 内镜揭盖术;唇齿沟径路切除术;鼻前庭囊肿;炎症因子;并发症;复发

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## Nasal Vestibular Cyst: Curative Effects and Impact of Endoscopic Resection and Labiodental Sulcus Path Resection on Inflammatory Factors\*

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**ABSTRACT Objective:** To study the clinical efficacy of endoscopic resection (ER) and labiodental sulcus path resection (LSPR) in treatment of patients with nasal vestibular cyst (NVC) and influence on the inflammatory factors of patients. **Methods:** A total of 106 NVC patients, who were admitted to Guangyuan Central Hospital of Sichuan Province from July 2015 to June 2017, were randomly divided into ER group(n=53) and LSPR group(n=53). The ER group was treated by ER, and the LSPR group was treated by labiodental sulcus path resection. The intraoperative bleeding volume, the operation time, the time of wound healing, pain scores 24 h after operation, the epithelial time, the levels of IL-6, IL-8, TNF- $\alpha$  and CRP before operation and 7 days after operation, the postoperative complications and recurrence were observed in the two groups. **Results:** The intraoperative bleeding volume, the operation time, the time of wound healing, the pain scores 24 h after operation and the epithelial time in ER group were lower than those in LSPR group ( $P < 0.05$ ). 7 days after operation, the levels of IL-6, IL-8, TNF- $\alpha$ , CRP in the two groups were lower than those before operation, and the ER group was lower than the LSPR group, the difference was statistically significant ( $P < 0.05$ ). The incidence of postoperative complications(5.55%), and recurrence rate (3.77%) in ER group were lower than those (22.64%, 20.75%) in LSPR group, the difference was statistically significant ( $P < 0.05$ ). **Conclusion:** Compared with LSPR, in the treatment of NVC, ER can effectively reduce the levels of postoperative inflammatory factors, with less trauma, faster recovery, low incidence of postoperative complications and recurrence rate, which is worthy of clinical application.

**Key words:** Endoscopic resection; Labiodental sulcus path resection; Nasal vestibular cyst; Inflammatory factors; Complications; Recurrence

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### 前言

鼻前庭囊肿(Nasal vestibular cyst, NVC)为鼻前庭底部和鼻腔下鼻甲、外下壁及上颌骨牙槽突之间的囊性肿瘤,多发于

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中青年女性<sup>[1]</sup>。NVC 多由先天发育异常或腺体滞留引发,早期无特异性表现,随着 NVC 的体积增大,多数患者常存在局部胀痛,若继发感染,不但疼痛程度明显增加,肿瘤体积也显著增加<sup>[2]</sup>。在 NVC 的治疗上,既往多行唇齿沟径路切除术(Labiodental sulcus path resection, LSPR),该术式不但创伤大、手术时间长、术后恢复慢,且常可发生牙龈痿、鼻前庭粘连等多种并发症,影响术后康复<sup>[3]</sup>。研究证明,内镜揭盖术(Endoscopic resection, ER)具有微创,操作简单,术后并发症少等优点,已逐渐应用于临床<sup>[4]</sup>。本文旨在比较 ER 与 LSPR 治疗 NVC 患者的临床疗效及对免疫功能的影响,总结如下。

## 1 资料与方法

### 1.1 一般资料

表 1 两组一般资料比较

Table 1 Comparison of general data between two groups

Groups	n	Sex (male/female)	Age (age)	Course of disease (months)	Diameter (cm)	Position (left/right)	Infection/unin- fection
ER group	53	14/39	36.58± 3.68	2.53± 0.29	1.85± 0.22	34/19	19/34
LSPR group	53	13/40	36.80± 3.73	2.46± 0.26	1.81± 0.16	37/160.384	20/33
$\chi^2/t$		0.050	0.306	1.308	1.071	0.384	0.041
P		0.824	0.761	0.194	0.287	0.536	0.840

### 1.2 方法

感染患者术前均行抗感染治疗,术后常规抗生素处理。ER 组行 ER 治疗。患者患侧鼻腔表面麻醉,取平卧位,NVC 周围浸润麻醉。于患侧鼻前庭底部隆起位将黏膜与囊壁切开,将囊液吸出,于切口位将囊壁提起,沿切口将囊肿上部囊壁切除,切除范围向内至鼻中隔,向外至鼻腔外侧壁,向后至囊腔边缘,向前避免鼻前庭皮肤损伤,整修创缘,确保囊肿残缘和鼻黏膜切缘吻合,充分开放囊腔,以碘仿纱条填充鼻前庭,术后 2 d 取出。LSPR 组行 LSPR。患者取卧位,患侧唇齿沟至 NVC 位及 NVC 周围性浸润麻醉。于患侧上唇系带附近切开,于梨状孔方向行软组织分离,充分暴露囊壁后完整分离切除。以碘仿纱条填充鼻前庭,术后 2 d 取出。

### 1.3 观察指标

观察两组术中出血量、手术时间、术后创口愈合时间、术后 24 h 疼痛评分及上皮化时间等手术指标;两组术前、术后 7 d 白细胞介素 -6(IL-6)、白细胞介素 -8(IL-8)、肿瘤坏死因子 - $\alpha$  (TNF- $\alpha$ )、C-反应蛋白(CRP)等炎症因子;两组术后并发症及复发情况。以视觉模拟评分(Visual analogue scale, VAS)法评价术后 24 h 疼痛评分。让患者按照疼痛程度选于 0~10 分间选

择数字,其中无疼痛:0 分,轻度疼痛:1~3 分,中度疼痛(可忍受、影响睡眠):4~6 分,重度疼痛(剧痛或疼痛难忍):7~10 分<sup>[5]</sup>;所有患者均抽取清晨空腹静脉血 5 mL,于离心机下常温离心 5 min,3000 r/min,充分离心后取血清 -20℃ 冰箱保存待检。以酶联免疫吸附实验(Enzymelinkedimmunosorbentassay, ELISA)检测 IL-6、IL-8、TNF- $\alpha$  及 CRP 等炎症因子,试剂盒为罗氏专用试剂盒。两组患者均随访 1 年。

收集 2015 年 7 月至 2017 年 6 月来我院就诊的 NVC 患者 106 例,纳入标准:经 CT、MRI 及鼻内镜检查确诊为 NVC 患者;单侧 NVC 患者;知情同意患者;符合手术指征患者。排除标准:凝血功能障碍患者;内镜下难以窥及鼻前庭区域患者;合并全身器官衰竭患者;血液病、糖尿病、高血压病患者;肝肾功能严重失常患者;依从性差患者;明显瘢痕体质患者。其中男 27 例,女 79 例;年龄 26~52 岁,平均年龄(36.77± 3.71)岁;病程 1.5~20 个月,平均(2.49± 0.27)个月;直径 1.1~2.7 cm,平均直径(1.83± 0.19);位置:左侧 71 例,右侧 35 例;感染 39 例,未感染 67 例。将 106 例 NVC 患者依据随机数字表法分别纳入 ER 组(53 例)及 LSPR 组(53 例),两组一般资料比较差异无统计学意义( $P>0.05$ ),具有可比性。见表 1。

表 1 两组一般资料比较

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择数字,其中无疼痛:0 分,轻度疼痛:1~3 分,中度疼痛(可忍受、影响睡眠):4~6 分,重度疼痛(剧痛或疼痛难忍):7~10 分<sup>[5]</sup>;所有患者均抽取清晨空腹静脉血 5 mL,于离心机下常温离心 5 min,3000 r/min,充分离心后取血清 -20℃ 冰箱保存待检。以酶联免疫吸附实验(Enzymelinkedimmunosorbentassay, ELISA)检测 IL-6、IL-8、TNF- $\alpha$  及 CRP 等炎症因子,试剂盒为罗氏专用试剂盒。两组患者均随访 1 年。

### 1.4 统计学处理

以 SPSS 19.0 统计软件进行数据分析,定量资料以均数±标准差( $\bar{x} \pm s$ )描述,组内比较行配对 t 检验,组间比较行独立样本 t 检验;定性资料以例数结合率描述,组间比较行  $\chi^2$  检验。检验水准  $\alpha$  为 0.05。

## 2 结果

### 2.1 两组手术相关指标比较

ER 组术中出血量、手术时间、术后创口愈合时间、术后 24 h 疼痛评分及上皮化时间等手术指标均低于 LSPR 组,差异有统计学意义( $P<0.05$ )。见表 2。

表 2 两组手术相关指标比较( $\bar{x} \pm s$ )

Table 2 Comparison of operative indexes of two groups( $\bar{x} \pm s$ )

Groups	n	Intraoperative bleedingvolume (ml)	Operation time (min)	The time of wound healing (d)	Postoperative 24h pain scores (score)	Epithelial time(d)
ER group	53	8.78± 0.91	11.68± 1.19	4.56± 0.48	2.06± 0.21	5.87± 0.57
LSPR group	53	40.32± 4.19	44.98± 4.60	6.78± 0.69	2.59± 0.25	8.65± 0.88
t		53.552	51.022	19.228	10.480	19.303
P		0.000	0.000	0.000	0.000	0.000

2.2 两组术前、术后 7 d 炎症因子水平比较

术前, 两组 IL-6、IL-8、TNF- $\alpha$  及 CRP 水平差异无统计学意义 ( $P > 0.05$ ); 术后 7 d, 两组 IL-6、IL-8、TNF- $\alpha$  及 CRP 水平均

降低, 较术前差异均有统计学意义 ( $P$  均  $< 0.05$ ), 术后 7 d, ER 组 IL-6、IL-8、TNF- $\alpha$  及 CRP 水平均低于 LSPR 组, 差异均有统计学意义 ( $P$  均  $< 0.05$ )。见表 3。

表 3 两组术前、术后 7 d 炎症因子比较 ( $\bar{x} \pm s$ )

Table 3 Comparison of inflammatory factors between two groups before operation and 7days after operation ( $\bar{x} \pm s$ )

Groups	n	IL-6 (ng/L)		IL-8 (ng/L)		TNF- $\alpha$ (ng/L)		CRP (mg/L)	
		Before operation	7 days after operation	Before operation	7 days after operation	Before operation	7 days after operation	Before operation	7 days after operation
ER group	53	273.78 $\pm$ 27.42	83.98 $\pm$ 8.52*	341.87 $\pm$ 14.22	151.87 $\pm$ 15.32*	368.92 $\pm$ 36.93	75.98 $\pm$ 7.66*	12.39 $\pm$ 1.25	3.65 $\pm$ 0.37*
		274.02 $\pm$ 27.44	127.86 $\pm$ 13.92*	343.07 $\pm$ 14.30	206.86 $\pm$ 21.73*	369.19 $\pm$ 37.02	138.72 $\pm$ 14.03*	12.41 $\pm$ 1.27	5.76 $\pm$ 0.58*
LSPR group	53	0.045	19.574	0.433	15.057	0.038	28.574	0.082	22.328
		0.964	0.000	0.666	0.000	0.970	0.000	0.935	0.000

Note: Comparison with before operation, \* $P < 0.05$ .

2.3 两组术后并发症及复发情况比较

ER 组术后并发症发生率 (7.55%)、术后复发率 (3.77%) 均

低于 LSPR 组术后并发症发生率 (22.64%)、术后复发率 (20.75%), 组间差异有统计学意义 ( $P$  均  $< 0.05$ )。见表 4。

表 4 两组术后并发症及复发比较 [n (%)]

Table 4 Comparison of postoperative complications and recurrence between two groups

Groups	n	Postoperative complications					Postoperative recurrence
		Infect	Numb	Nasal vestibule discomfort	Upper lip swelling	Total incidence	
ER group	53	0 (0.00)	2 (3.77)	1 (1.89)	1 (1.89)	4 (7.55)	2 (3.77)
LSPR group	53	4 (7.55)	3 (5.66)	2 (3.77)	3 (5.66)	12 (22.64)	11 (20.75)
$\chi^2$		2.338	1.372	0.000	0.260	4.667	7.035
P		0.126	0.241	1.000	0.610	0.031	0.008

3 讨论

NVC 为耳鼻喉科临床常见疾病, 患者多因单侧鼻前庭内梨状孔周围或鼻翼处发现肿物而就诊<sup>[6]</sup>。NVC 可堵塞鼻腔, 压迫局部组织导致面部胀痛, 若并发感染则疼痛将更加严重<sup>[7]</sup>。目前, 对于 NVC 的病因尚存在一定的争议<sup>[8]</sup>。国外研究认为, 胚胎期上颌突、内外侧鼻突结合部位发育不全, 部分胚性上皮发育成小型面裂囊肿, 囊肿发育后可侵犯上颌窦、鼻腔以及上颌牙槽突, 最终形成 NVC<sup>[9]</sup>。部分学者认为, NVC 的发生是由于鼻腔鼻底腺体堵塞, 致使分泌物过量堆积并最终导致 NVC<sup>[10]</sup>。

手术切除是临床治疗 NVC 的主要方法<sup>[11]</sup>。LSPR 视野广阔, 暴露充分, 便于切除囊壁以及 NVC 内壁上皮层, 阻断 NVC 的病理进程<sup>[12]</sup>。但鼻前庭皮肤相对较薄, 皮下组织也较少, 再加上 NVC 压迫骨质导致骨质吸收, 彻底清除 NVC 存在较大困难<sup>[13]</sup>。经口前庭分离创伤较大, 术中常易导致 NVC 破裂, 致使囊壁残存, 较易复发。NVC 还易引发术后感染、面部肿胀、上唇麻木等并发症<sup>[14]</sup>。此外, 若 NVC 位于鼻甲底部外侧, 单纯行唇齿沟径路切除难以完整切除, 术后也易复发, 影响患者预后<sup>[15]</sup>。研究证明, 由于 NVC 和鼻底部黏膜较为接近, 且 NVC 内壁属于上皮组织, 能够和鼻腔黏膜上皮愈合在一起, 故以 ER 治疗 NVC 较为适宜<sup>[16]</sup>。作为治疗 NVC 的新型术式, ER 可充分吻合

NVC 创缘和鼻黏膜切缘, 在鼻腔内形成空间较大的囊腔, 术后随着组织修复作用, 囊腔可变浅或消失<sup>[17]</sup>。作为上皮组织, 术后囊壁和鼻腔上皮能够互相融合, 成为鼻腔黏膜及鼻前庭的一部分<sup>[18]</sup>。ER 尽管切除了部分囊壁及鼻黏膜, 但并未改变鼻腔结构, 对鼻腔功能影响较小, 故术后并发症相对较少<sup>[19]</sup>。此外, ER 于鼻内窥镜下完成, 不但术野更加清晰, 有利于手术操作, 且创伤小, 便于术后康复<sup>[20,21]</sup>。在本研究中, ER 组各手术相关指标, 术后并发症及复发率均优于 LSPR 组, 提示 ER 治疗 NVC 较 LSPR 更具优势。

炎症因子是评价机体免疫功能的关键指标, 其水平与机体是否发生炎症反应密切相关<sup>[22]</sup>。CRP 是非特异性免疫的重要部分, 为组织损伤、微生物入侵、炎症反应状态下肝脏产生的急性相蛋白<sup>[23]</sup>。CRP 可结合配体, 激活单核吞噬细胞和补体系统, 清除载有配体的病原体或其他病原物质<sup>[24]</sup>。IL-6 为淋巴因子, 可促进 B 细胞前体转化为生成抗体的细胞, 协同集落刺激因子提高原始骨髓源细胞活性, 促进自然杀伤细胞分裂增生<sup>[25,26]</sup>。IL-8 对免疫细胞具有较强的趋化作用, 可有效激活和趋化嗜中性粒细胞、淋巴细胞等多种免疫细胞<sup>[27,28]</sup>。TNF- $\alpha$  可提高中性粒细胞活性, 诱导肝脏合成 CRP, 抵抗感染<sup>[29]</sup>。研究证明, 感染或自身免疫性疾病患者机体炎症因子水平均显著升高, 可通过检测上述炎症因子水平评价患者机体炎症反应状态<sup>[30]</sup>。在本研究中,

术前两组患者各炎症因子水平均相对较高,说明 NVC 患者机体普遍位于炎症状态,术后两组炎症因子水平均降低,且 ER 组低于 LSPR 组,其原因主要的 ER 创伤小,对机体干扰小,有利于术后免疫系统恢复。

综上所述,与 LSPR 相比较,ER 治疗 NVC 创伤小,恢复快,对机体影响小,可有效降低术后炎症因子水平,且术后并发症及复发率低,值得临床应用。此外,由于本研究选择的样本数较少,研究结果可能难以概括所有类型 NVC 患者,需于今后研究中增加样本数量,以获得更加全面准确的结果。

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(上接第 3309 页)

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