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改良乳突根治术联合后上壁重建对上鼓室胆脂瘤型中耳炎患者听力改善及复发率的影响 *

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摘要 目的：探讨改良乳突根治术联合后上壁重建对上鼓室胆脂瘤型中耳炎患者听力改善及复发率的影响。**方法：**选取本院 2015 年 5 月 -2020 年 10 月收治的 62 例上鼓室胆脂瘤型中耳炎患者作为研究对象，随机将其分为改良组（n=31）和对照组（n=31）。改良组采用改良乳突根治术联合后上壁重建进行治疗，对照组采用乳突根治术进行治疗，对比两组患者手术前后听力情况、术后干耳所需时间等指标。**结果：**治疗前两组患者的气骨导差、气导听阈对比无明显差异（$P>0.05$），治疗后均降低，并且改良组低于对照组（$P<0.05$）；改良组患者术后并发症发生率较对照组低（$P<0.05$）；改良组患者的术后 2 周、4 周、8 周干耳率较对照组高（$P<0.05$），术后干耳所需时间低于对照组（$P<0.05$）；改良组治疗总有效率较对照组高（$P<0.05$）。**结论：**将改良乳突根治术联合后上壁重建应用于上鼓室胆脂瘤型中耳炎患者当中，可提高患者听力，降低并发症，还可提高患者干耳率，缩短干耳时间，降低复发率，提高临床疗效，本研究值得临床借鉴。

关键词：改良乳突根治术；后上壁重建；胆脂瘤型中耳炎
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Effect of Modified Mastoidectomy Combined with Posterior Superior Wall Reconstruction on Hearing Improvement and Recurrence Rate in Patients with Upper Tympanic Cholesteatoma Otitis Media*

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ABSTRACT Objective: To investigate the effect of modified mastoidectomy combined with posterior superior wall reconstruction on hearing improvement and recurrence rate in patients with upper tympanic cholesteatoma otitis media. **Method:** Select 62 cases of cholesteatoma admitted in our hospital from May 2015 to October 2020 Patients with upper tympanic cholesteatoma otitis media were taken as the research objects, and they were segmented into improved group (n=31) and matched group (n=31). The improved group was treated with modified radical mastoidectomy combined with posterior upper wall reconstruction for upper tympanum cholesteatoma otitis media, while the matched group was treated with radical mastoidectomy for upper tympanum cholesteatoma otitis media. The hearing status before and after surgery and the time required for dry ear after surgery were compared between these groups. **Results:** Before treatment, there was no difference in the difference between these groups ($P>0.05$), all decreased after treatment, and the improved group was lower than the matched group ($P<0.05$); the incidence of postoperative complications in the improved group was lower than matched group ($P<0.05$); The dry ear rate of 2, 4 and 8 weeks after operation in improved group was higher than that in matched group ($P<0.05$), and the time required for dry ear after operation was lower than that in matched group ($P<0.05$); the total effective rate of treatment in the improved group was higher than that in the matched group ($P<0.05$). **Conclusion:** The application of modified mastoidectomy combined with posterior superior wall reconstruction in patients with upper tympanic cholesteatoma otitis media can improve patients' hearing, reduce complications, improve the rate of dry ear, shorten the time needed for dry ear, reduce the recurrence rate and improve the clinical efficacy. This study is worthy of clinical reference.

Key words: Modified radical mastoidectomy; Posterior upper wall reconstruction; Cholesteatoma otitis media
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前言

胆脂瘤型中耳炎是一种耳鼻喉科疾病，发病率较高。胆脂瘤型中耳炎并不是真性肿瘤，但具有肿瘤的侵蚀破坏的特性，对中耳听力结构以及相邻骨质呈现进行性破坏，多引起严重不良后果[1-3]。上鼓室胆脂瘤型中耳炎的病变区域是上鼓室，鼓膜松弛其内陷所导致。临床上的治疗原则为：早期确诊，及时治疗，其治疗主要是手术治疗，清除胆脂瘤，通畅引流，并保持或者提高患者的原有听力，并且需要建立一个封闭、干燥、安全的中耳结构[4,5]。乳突根治术可对鼓室、鼓窦等病变进行清除，但会对外耳道及中耳的解剖结构具有一定的损害性，术后听力效果较差[6,7]。随着医疗科技的不断进步，改良乳突根治术逐渐应用于临床当中，可减轻对患者听力的听力损失。该手术的最大难度在于不但清除病变组织，且还需要通过难度较大的显微技术进行鼓膜、听骨链系统的重建，进而有利于患者听力的提高[8,9]。后上壁重建有利于增加乳突腔的通气量，术后的换药，提高干耳率，有利于患者的恢复[10]。本研究探讨了改良乳突根治术联合后上壁重建对上鼓室胆脂瘤型中耳炎患者听力改善及复发率的影响，现做出如下报告。

1 资料与方法

1.1 一般资料

选取本院 2015 年 5 月 -2020 年 10 月收治的 62 例上鼓室胆脂瘤型中耳炎患者作为研究对象，随机将其分为改良组（n=31）和对照组（n=31）。本研究经我院伦理委员会批准。

纳入标准：确诊为上鼓室胆脂瘤型中耳炎患者[11]；患者均符合手术指征；知情并签署了同意书。

排除标准：合并严重心肺功能障碍患者；合并严重肾脏功能障碍患者；合并精神疾病患者；合并严重认知失调患者；不同意参加临床试验患者；中途退出实验患者；中途转院患者。两组患者一般资料对比无明显差异（P>0.05），具有可比性，如表 1 所示。

表 1 两组一般资料比较

Table 1 Comparison of general information between the two groups

Groups	n	Gender (male/female)	Age (years)	Weight (kg)	Degree level(n)		
					Junior high school and below	High school	College degree and above
Improved group	31	15/16	42.25±2.54	63.98±6.47	5	7	19
Matched group	31	13/18	42.53±2.65	63.24±6.78	6	8	17

1.2 方法

对照组：采用改良乳突根治术进行治疗，具体方法为：对患者进行全麻，麻醉后依据患者具体情况在患者耳后或者耳内做切口，清除患者上鼓室的胆脂瘤、病变黏膜、肉芽组织，显露锤砧关节，开放上鼓室，去除病变的锤骨、砧骨，并在残存的听骨链的基础上重建人工听骨，然后修补鼓膜完成乳突根治及鼓室成型术。

改良组：采用改良乳突根治术联合后上壁重建进行治疗，具体方法为：对患者进行全麻，麻醉后进行常规耳后切口，取颞肌筋膜直径为 2.5*2.5 cm 左右，脱水备用。行耳后梯形带蒂肌骨瓣膜、剥离外耳道后壁皮瓣，显露上鼓室、外耳道后壁、鼓窦入口及中耳腔，探查听骨链。开放上鼓室、鼓窦，切除患者骨性外耳道后上壁，鼓窦入口处 " 断桥 " 处理，在显微镜下清除上鼓室及鼓窦内胆脂瘤病变组织并冲洗术腔，切取乳突表面相应大小骨皮质，重建外耳道后上壁备用，依据术中病变情况，探查听骨链，去除破坏的听小骨，以人工听骨重建听骨链，实施鼓室形成术。对外耳道后壁皮瓣进行复位，并使用明胶海绵填塞外耳道，缝合耳后切口。

1.3 观察指标与评定标准

（1）观察两组患者手术前后听力情况其中包括气骨导差、气导听阈，对患者进行纯音听阈测试，气骨导差、气导听阈的听阈值越小说明患者听力情况越好。（2）于手术后，观察两组患者并发症，其中包括中耳感染、眩晕、感音神经性聋、出血、听力下降、耳鸣[12]。

（3）观察两组患者术后 4 周干耳率、6 周干耳率、8 周干耳率以及术后干耳所需时间。（4）观察两组患者的临床疗效[13,14]，手术后 6 周患者听力恢复正常，头晕、耳鸣、耳闷等症状消失为显效；手术后 6 周患者听力提高 30-15 dB，头晕、耳鸣、耳闷等症状减轻为有效；手术后 6 周患者听力恢复小于 15 dB，头晕、耳鸣、耳闷等症状并无改善为无效。

1.4 统计学方法

采取 SPSS 23.0 进行分析，计数资料以（n/%）表示，进行 χ^2 检验；计量资料用（$\bar{x}\pm s$）表示，采用 t 检验；以 P<0.05 为差异有统计学意义。

2 结果

2.1 手术前后听力情况比较

治疗前两组患者的气骨导差、气导听阈对比无明显差异（P>0.05），治疗后均降低，并且改良组低于对照组（P<0.05），如表 2 所示。

2.2 术后并发症发生情况比较

改良组术后并发症发生率较对照组低（P<0.05），如表 3 所示。

2.3 术后 2 周、4 周、8 周干耳率、术后干耳所需时间比较

改良组患者的术后 2 周、4 周、8 周干耳率明显高于对照组，术后干耳所需时间低于对照组（P<0.05），如表 4 所示。

2.4 临床疗效比较

改良组治疗总有效率较对照组高（P<0.05），如表 5 所示。

3 讨论

上鼓室胆脂瘤发病过程一般比较缓慢，病变常沿着砧骨向

表 2 手术前后听力情况对比($\bar{x}\pm s$)

Table 2 Comparison of hearing conditions before and after surgery ($\bar{x}\pm s$)

Groups	n	Air bone conduction difference(dB)		Air conduction listening valve(dB HL)	
		Before surgery	After surgery	Before surgery	After surgery
Improved group	31	32.23±6.11	12.89±3.95[ab]	54.78±7.64	37.98±5.68[ab]
Matched group	31	32.22±6.11	16.46±6.56[a]	54.79±7.98	43.08±6.48[a]

Note: Compared with before surgery, [a]P<0.05; compared with matched group, [b]P<0.05.

表 3 不良反应发生率对比(n,%)

Table 3 Comparison of the incidence of adverse reactions (n,%)

Groups	n	Middle ear infection	Dizziness	Sensorineural hearing loss	Bleeding	Hearing loss	Tinnitus	Total incidence
Improved group	31	0(0.00)	1(3.22)	0(0.00)	0(0.00)	1(3.22)	1(3.22)	3(9.67)[b]
Matched group	31	2(6.45)	4(12.90)	1(3.22)	0(0.00)	1(3.22)	2(6.45)	11(35.48)

Note: Compared with matched group, [b]P<0.05.

表 4 术后 2 周、4 周、8 周干耳率、术后干耳所需时间对比

Table 4 Comparison of dry ear rate and postoperative dry ear time at 2, 4 and 8 weeks after surgery

Groups	n	Dry ear rate in 4 weeks after operation (n, %)	Dry ear rate in 6 weeks after operation (n, %)	Dry ear rate in 8 weeks after operation (n, %)	The time required for postoperative dry ears ($\bar{x}\pm s$,d)
Improved group	31	26(83.87%)[b]	27(87.10%)b	29(93.54%)[b]	32.23±5.58[b]
Matched group	31	19(61.29%)	20(64.52%)	21(67.74%)	36.56±5.65

Note: Compared with matched group, [b]P<0.05.

表 5 术后 6 周疗效对比(n,%)

Table 5 Comparison of curative effect at 6 week after operation(n,%)

Groups	n	Markedly effective	Efficient	Invalid	Total effective rate
Improved group	31	20(64.51)	10(32.25)	1(3.22)	30(96.77)[b]
Matched group	31	14(45.16)	11(35.48)	8(25.80)	25(80.64)

Note: Compared with matched group, [b]P<0.05.

外扩展,听力下降较晚,而且程度较轻。胆脂瘤形成后,将会不断向四周扩张进而损坏骨质,引发鼓膜穿孔、听小骨破坏等并发症,因此及时治疗十分重要。改良乳突根治术是对于上鼓室、部分鼓窦以及鼓室内的病变进行清除,将外耳道与以上三者相通可形成一个空腔,覆盖于上皮[15,16]。手术主要目的为彻底清除鼓窦和咽鼓管鼓口病变组织等,防止出现颅内外并发症,降低听力损失[17,18]。后上壁重建是指清除上鼓室内的病变组织后重建外耳道后上壁,恢复外耳道的解剖结构[19]。据研究报道[20],乳突根治术后为患者进行修正手术扩大患者外耳道口,有利于患者引流,并且缩短干耳时间,疗效显著[21]。另有研究表明[22,23],开放式乳突根治术和软壁外耳道重建鼓室形成术应用于上鼓室胆脂瘤中耳炎患者当中,临床疗效显著,提高患者听力,并且复发率低。因此,本研究针对改良乳突根治术联合后上壁重建对上鼓室胆脂瘤中耳炎患者听力改善及复发率的影响,为临床提供参考意见。

本研究结果显示,治疗前两组气骨导差、气导听阈对比无明显差异,治疗后两组气骨导差、气导听阈均降低,并且改良组低于对照组。本条结果说明,将改良乳突根治术联合后上壁重建应用于上鼓室胆脂瘤中耳炎患者当中,可保持或提高提高患者的听力。本条结果与周广杰等人[24]以及 Mendlovic ML 等人[25]的研究结果一致。进一步分析可知:改良乳突根治术联合后上壁重建通过开放上鼓室及部分鼓窦,清除患者上鼓室鼓室内胆脂瘤及病变的黏膜、鼓膜、残存听骨等,可极大程度清除上鼓室内的病变组织,进而提高患者干耳率[26,27]。改良组术后并发症发生率较对照组低。本条结果说明,将改良乳突根治术联合后上壁重建应用于上鼓室胆脂瘤中耳炎患者当中,可降低患者胆脂瘤复发率、中耳感染、眩晕、出血、耳鸣等并发症的发生。本条结果与张敏等人[28]以及 Faramarzi M 等人[29]的研究结果一致,即对患者治愈率效果高,且术后并发症发生率明显降低。进一步分析可知,开放式乳突鼓室成形术对外耳道后壁的正常结构具有一定的破坏性,且其会与乳突形成一个术腔,干耳较慢,易结痂,对于听力改善不理想。改良乳突根治术联合后上壁重建有效保留患者的乳突腔,恢复外耳道后上壁解剖结构,不必过多的破坏中耳组织,减少并发症[30]。改良组患者的术后 2 周、4 周、8 周干耳率明显高于对照组, 术后干耳所需时间低于对照组。说明,将改良乳突根治术联合后上壁重建应用于上鼓室胆脂瘤中耳炎患者当中,可提高患者干耳率,缩短干耳所需时间。本条结果与王有喜的研究[31]以及 Wood CB 等人的报道[32]一致,即乳

突根治鼓室成形术术后恢复情况较好，可降低患者的复发率，提高干耳率，缩短干耳所需时间。进一步分析可知：后上壁重建在保留患者原有的听力基础上为患者进行听力水平恢复，提高患者听力水平，使用显微镜，对患者上鼓室及部分鼓窦内病变组织进行清除，可促进患者尽早恢复生理功能。改良组治疗总有效率较对照组高。结果说明，将改良乳突根治术联合后上壁重建应用于上鼓室胆脂瘤中耳炎患者当中，可提高临床疗效。本条结果与 Kim BG 的研究结果一致[15]，即乳突根治术与鼓室成形术联合可以提高临床疗效。进一步分析可知：改良乳突根治术联合后上壁重建清除患者耳内上鼓室的胆脂瘤、上鼓室病变、肉芽组织，对患者鼓膜穿孔进行修补，降低患者听力下降等情况，提高患者的听力水平，进而提高临床疗效。本研究存在一定不足，如样本量较小等，将在后续加大样本量，深入探究。

综上所述，我们的研究表明，将改良乳突根治术联合后上壁重建应用于上鼓室胆脂瘤中耳炎患者当中，可提高患者听力，降低并发症，还可提高患者干耳率，有助于缩短干耳时间，降低患者疾病复发率，且提高临床疗效，本研究对于临床具有一定的价值。

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