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· 临床研究 ·

微血管减压术治疗面肌痉挛术后相关并发症的临床分析*

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摘要 目的:总结面肌痉挛患者的术后并发症的发生情况并分析其原因。**方法:**回顾性分析了 1548 名在我院行微血管减压术治疗面肌痉挛的患者的临床资料,所有患者接受电话随访或者门诊随访,随访时间均超过 2 年,总结其临床疗效及术后并发症的发生情况。**结果:**微血管减压术后痊愈率及明显缓解率分别为 92.5%及 4.2%。249 名(16.09%)患者出现不同的并发症,其中最常见并发症为面瘫及术后手术区域皮肤感觉障碍,无死亡及重大并发症患者。听力损害发生率为 3.5%。其他并发症包括脑脊液漏、后组颅神经损伤、外展神经损伤、颅内出血等。**结论:**微血管减压术是治疗面肌痉挛的安全有效操作,以手术区域感觉障碍及迟发性面瘫是主要的并发症,持久性的或者严重的并发症比较少见。

关键词:面肌痉挛;微血管减压术;并发症

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Clinical Analysis of Postoperative Complications after Microvascular Decompression for Hemifacial Spasm*

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ABSTRACT Objective: To summarize the incidence of postoperative complications in patients with hemifacial spasm and analyze the causes. **Methods:** The clinical data of 1548 patients with hemifacial spasm (HFS) treated by microvascular decompression (MVD) in our hospital were retrospectively analyzed. All patients received telephone follow-up or outpatient follow-up for more than 2 years. **Results:** After the MVD, the cure rate and the obvious remission rate were 92.5% and 4.2% respectively. 249 (16.09%) patients had different complications, among which the most common complications were facial paralysis and postoperative skin sensory disorders, and no death or major complications. The incidence of hearing impairment was 3.5%. Other complications included cerebrospinal fluid leakage, posterior cranial nerve injury, abducens nerve injury, intracranial hemorrhage and so on. **Conclusion:** MVD is a safe and effective procedure for the treatment of HFS. Sensory disturbance and delayed facial paralysis are the main complications, and persistent or severe complications are rare.

Key words: Hemifacial spasm; Microvascular decompression; Complications

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前言

面肌痉挛(hemifacial spasm, HFS)是一种临床上常见的颅神经疾病,主要表现为单侧面部不自主的抽动,情绪激动或者紧张时临床症状加重,会给患者造成严重的心理障碍^[1]。面肌痉挛好发于中年人,女性多于男性。大多数学者认为血管压迫面神经的出脑干区域(root of facial nerve zone, REZ)是其主要发病原因,但也有学者认为面神经颅内段任何部位受压都会引起面神经兴奋,进而导致面肌痉挛^[2,3]。

微血管减压术(microvascular decompression, MVD)是目前

唯一一种针对病因的治疗方法,也是唯一一种有望彻底治愈面肌痉挛的方法。相关文献报道,微血管减压术治疗面肌痉挛的有效率为 50-98%^[4]。然而,微血管减压术后并发症也不容忽视,常见的并发症包括迟发型面瘫(facial nerve palsy, FNP)、听力损伤、手术区域感觉障碍、颅内出血、感染、脑脊液漏等^[5]。本文主要回顾分析了 1548 例行微血管减压术治疗面肌痉挛的患者临床资料,统计并分析了各并发症的发生情况及原因,结果如下。

1 材料与方法

1.1 临床资料

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从2009年1月到2013年7月,共有1724名面肌痉挛患者在上海交通大学医学院附属新华医院神经外科接受微血管减压术。排除肿瘤、血管畸形等继发原因及失访患者,共有1528例患者纳入本研究中。所有患者随访时间都超过2年。此研究经过本院伦理会同意。

1.2 手术操作

所有手术均为同一位高年资主任医师完成。全麻下采用常规乙状窦后入路,依次切开皮肤、肌肉,暴露露骨,剪开蛛网膜,释放脑脊液,待颅内压降低后,自后组颅神经尾端向头端锐性分离蛛网膜,使小脑与后组颅神经完全分离,进而探查面神经全程,暴露责任血管后,将Teflon垫片放置于面神经与责任血管之间。而后缝合硬脑膜、并用骨蜡严密封堵乳突气房。术中实时电生理检测包括脑干听觉诱发电位(Brainstem Auditory Evoked Potential, BAEP)、异常肌反应(abnormal muscle response, AMR)、肌电图等。

1.3 术后随访及疗效评价

手术疗效标准共分为四个等级:①痊愈(excellent):面肌痉挛症状完全消失;②明显缓解(good):面肌痉挛症状显著消失,只是在情绪激动时偶尔诱发;③部分缓解(poor):面肌痉挛症状减轻,但发作仍较频繁;④无效(failed):面肌痉挛症状无任何改善。术后面神经分级大于Ⅱ级提示为面瘫(House-Brackmann)分级。根据纯音测听(Pure Tone Audiometry, PTA)结果听力损伤分为以下四个级别:①轻度:26<PTA<40分贝;②中度:41<PTA<70分贝;③严重:71<PTA<90分贝;④失聪:PTA>91分贝。术后48小时之内的损伤被称为“即刻损伤”。术后所有患者接受电话随访或者门诊随访,时间均超过2年。

1.4 统计学分析

所有数据采用SPSS18.0进行分析。分类变量数据用频率(%)表示,连续变量用均数±标准差表示,以 $P \leq 0.05$ 认为差异具有统计学意义。

2 结果

2.1 基本资料

本研究纳入男性患者542名,女性患者1006名,平均年龄为52.8岁,左/右为1.5,平均病程为5.8年(1-24年),术后痊愈率、明显缓解率分别为92.5%及4.2%,见表1。术后249(16.09%)名患者出现了不同的并发症,见表2,手术区域感觉障碍及面瘫是最常见的并发症。

2.2 术后面瘫的发生情况

150名患者术后出现了面瘫症状。其中,7位患者术后即刻出现面瘫(group A),143名患者出现了迟发性面瘫(group B),具体发病时间见图1。B组中,134(94%)名患者在10-94天内面瘫症状完全康复。在随访结束时,A组、B组中分别有2及4名患者依然残存面瘫症状。

2.3 听力损害的发生情况

55(3.5%)名患者术后出现听力损害。其中42(2.7%)名患者即刻出现听力损害,迟发性听力损害患者为13(0.08%)名。术后所有患者均接受纯音测听检查。11(0.7%)名患者在术后48小时内出现持久性听力损害,3(0.2%)名患者在术后48小时后出现持久性听力损害。两者相比具有明显的统计学差异。

表1 1528例患者的基本资料

Table 1 Basic information of 1528 cases of patients

Classification	Number(%)
Gender	
Male	1006(65%)
Female	542(35%)
Side	
Left	925(59.8%)
Right	623(40.2%)
Duration	
≤ 5years	746(48.2%)
5-10years	529(34.2%)
≥ 10years	273(17.6%)

表2 微血管减压术后并发症

Table 2 Complications after microvascular decompression

Complications	Number(%)
Facial nerve palsy	
immediate onset	7(0.5%)
delayed onset	143(9.2%)
Hearing change	
mild	37(2.4%)
moderate	12(0.8%)
severe	5(0.3%)
deafness	1(0.06%)
Occipital sensory disturbance	
before 2008	315(11.2%)
after 2008(include 2008)	113(7.3%)
Lower cranial nerve palsy	12(0.78%)
Sixth nerve palsy	14(0.96%)
CSF leakage	
CSF rhinorrhea	7(0.5%)
CSF leakage in the wound	17(1.1%)
Hemorrhage	
EDH	1(0.06%)
DCH	1(0.06%)
Revision surgery for wound problem	14(0.96%)
Infection	
MASA	5(0.32%)
CoNS	2(0.013%)
Ppb	1(0.06%)

Note: CSF: cerebrospinal fluid; EDH: epidural hematoma; DCH: delayed cerebellar hematoma; MASA: Methicillin-resistant staphylococcus aureus; CoNS: Coagulase-negative Staphylococcus; Ppb: Propionibacterium

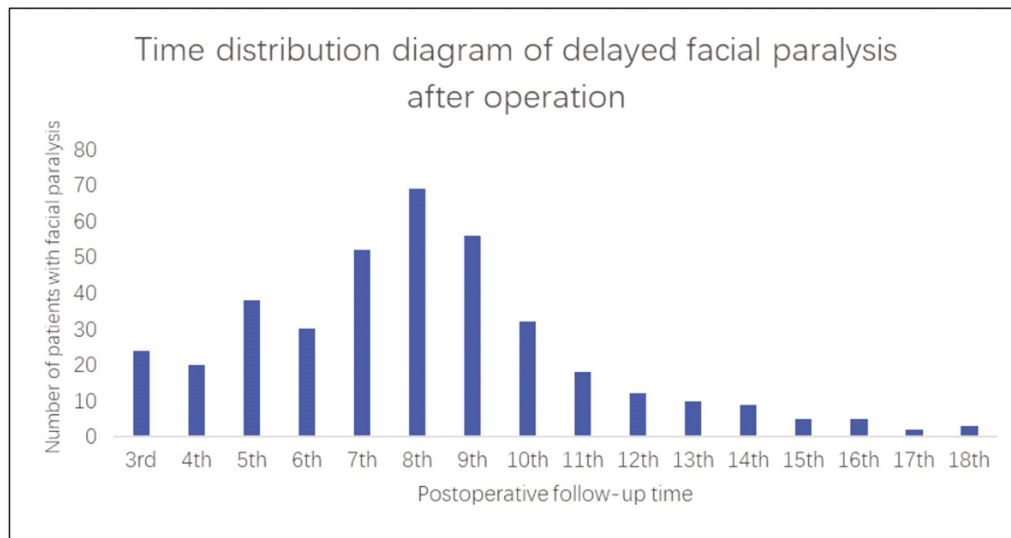


图 1 术后迟发性面瘫的发生时间分布情况

Fig.1 Distribution of the time of postoperatively delayed facial paralysis

2.4 手术区域感觉障碍的发生情况

自 2009 年,我们在术中试图保留枕小神经(Lesser occipital nerve, LON)(图 2)。2009 年后,113 名(7.3%)患者术后出现手术区域感觉障碍,2009 年前手术区域感觉障碍发生率为 11.2%,两个时段相比差异具有明显的统计学意义($P < 0.05$)。在 113 名患者中,枕小神经被成功识别并保存的为 88 名(group C),不能

够保存的为 12 名 (group D)。13 名患者,枕小神经不能识别 (group E)。88 名患者中,68 名患者术后未出现术后感觉障碍,剩下 20 名患者出现轻度感觉障碍。在 D 组中,5 名牺牲枕小神经的患者术后出现感觉障碍。在 E 组中,有 8 名患者出现感觉障碍。

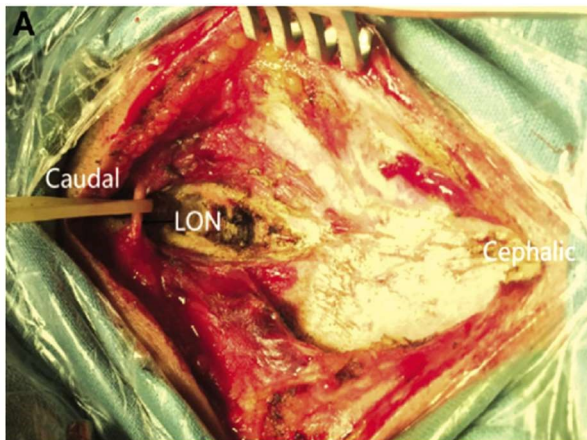


图 2 术中保留枕小神经

LON: 枕小神经; Caudal: 尾端 Cephalic: 头端

Fig.2 Intraoperative preservation of the occipital nerve

LON: Occipital nerve; Caudal: Tail; Cephalic: Head

2.5 后组颅神经麻痹的发生情况

12 名患者出现声音嘶哑,其中 9 名患者在术后第 3 个月声音嘶哑症状得到痊愈,剩下 3 名患者残余轻微症状。味觉障碍患者为 9 名,其中 8 名患者在随访中痊愈,1 名患者残余轻微味觉障碍。

2.6 外展神经麻痹的发生情况

术后 14 名(0.9%)患者出现单侧外展神经麻痹,其中 10 名患者为术后即刻出现症状,但 2 周之内外展神经麻痹症状均完全康复。剩下 4 名患者为 48 小时后出现症状,但 2 月后外展神经麻痹症状才完全康复。

2.7 颅内血肿的发生情况

术后第一天,所有患者均行头颅 CT 检查。1 名患者出现硬膜外血肿(图 3)。经过 20 天保守治疗后,血肿完全吸收。1 名患者在出院后 1 周出现小脑血肿,术后第 14 天再行头颅 CT 检查提示血肿明显吸收。

2.8 伤口感染及脑脊液漏的发生情况

术后有 8 名(0.52%)患者出现伤口感染。耐甲氧西林金黄色葡萄球菌感染 5 名患者,凝固酶阴性葡萄球菌感染 2 名患者,丙酸杆菌感染 1 名患者。24 名患者出现脑脊液漏。为避免脑脊液漏引起颅内感染,所以患者均进行了腰大池引流术。

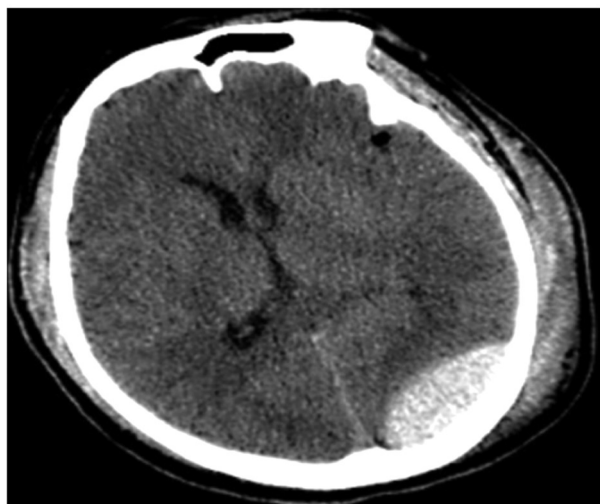


图3 CT显示硬膜外血肿

Fig.3 CT display epidural hematoma

3 讨论

本研究共有 1548 名患者接受了微血管减压术,有效率为 92.5%,没有患者出现死亡。尽管微血管被认为是治疗面肌痉挛的黄金疗法,然而术中需要对颅神经进行操作,所以术后会出现面瘫、听力损害、外展神经麻痹等颅神经疾病^[6]。尽管这些并发症都较轻微,并可以自愈,但是这些症状严重降低了患者的满意率及严重影响其生活质量^[7]。所以,术者需要注意每个并发症的转归及发病原因。

3.1 面神经麻痹

迟发性面瘫是面肌痉挛微血管减压术后常见的并发症,其发病率约为 2.8-15%。本研究中,迟发性面瘫的发生率为 9.2%,与其他学者报道的一致^[8-10]。98.5%的患者经过药物治疗后(营养神经、活血)达到了临床治愈,但 A 组中持久性的面瘫发病率高于 B 组,提示持久性面神经损伤经常发生在术后 24 小时内。可能与术中面神经直接损伤有关。因此,提高手术技巧、实施术中电生理检查与仔细操作可以预防面神经损伤。迟发性面瘫的具体发病原因至今不明^[11]。Kim^[12]教授认为术中 Teflon 棉垫对面神经的压迫导致面神经水肿是迟发性面瘫的主要发病机理。Gianoli^[13]教授认为术后带状疱疹病毒被激活是迟发性面瘫的主要原因。

3.2 术区感觉障碍

微血管减压术后经常有患者抱怨手术刀口区域出现皮肤感觉障碍。Schesse^[14]教授发现微血管减压术中保存枕小神经可以显著降低术区感觉障碍的发生率。枕小神经和耳大神经是手术区域中 2 个常见的神经,其中耳大神经是走向尾端,而枕小神经走向侧方,所以枕小神经是支配手术区域皮肤感觉的主要神经^[15,16]。在 C 组中,约 22.7%的患者术后出现术区感觉障碍,这可能与术中枕小神经损伤有关。在枕小神经无法辨别的患者中,约 39.5%的患者没有出现术区感觉障碍。其中的原因可能为:1)枕小神经与耳大神经之间存在一定数量的交通支;2)枕小神经向内侧走形,进而避免出现在手术切口口中。

3.3 听力损害

文献报道面肌痉挛微血管减压术后听力障碍的发生率为 2.7%-20%^[17-19]。许多原因都会引起听力障碍。比如对手术操作

时对听神经的牵拉,Teflon 垫片对听神经的压迫,手术器械对听神经的损坏。本研究中,11 名患者在术后 48 小时内出现持久性的听力损害,3 名患者在术后 48 小时后出现持久性的听力损害。这表明持久性的听力损害常发生在术后 48 小时内。术中应用脑干听觉诱发电位可以显著降低听力损害的发生率。Thirumala^[18]教授报道脑干听觉诱发电位的 V 波降低与术后听力损害呈正相关。

3.4 外展神经及后组颅神经麻痹

微血管减压术后出现外展神经麻痹只是零星报道^[19-23]。外展神经麻痹常见于海绵窦区肿瘤及血管病。与面神经相比,外展神经更娇内。虽然外展神经麻痹的发生原因不详,但是预后却很好。后组颅神经麻痹症状包括吞咽困难、声音嘶哑及味觉障碍。但是术前麻醉插管也会引起上述症状。

3.5 颅内血肿

文献报道微血管减压术后死亡率为 0.22-2%,其中致命的损伤为颅内出血和血肿,硬膜外血肿与细菌感染^[20,21,24-27]。本研究中,1 名患者在术后第一天出现了硬膜外血肿,原因如下:1)为了获取更大的操作空间,术中经常释放脑脊液。然而如果脑脊液释放过快,会撕裂静脉,进而导致出血,故手术中需要缓慢释放脑脊液;2)术后未能对肌肉进行仔细止血。

3.6 脑脊液漏

术中,为了充分暴露乙状窦,常常会被打开乳突气房^[22,28-31]。为了避免术后出现脑脊液漏,所以在关颅时需要用骨腊严密封闭乳突气房。如果术后出现脑脊液漏,可以采用腰大池引流的方式进行治疗^[32-34]。

综上所述,微血管减压术是治疗面肌痉挛的安全有效操作,以手术区域感觉障碍及迟发性面瘫是主要的并发症,持久性的或者严重的并发症比较少见^[35]。

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