·疼痛·

责任血管数目对三叉神经痛微血管减压术疗效和安全性的影响

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【摘要】 **目的** 探讨不同责任血管数目的三叉神经痛患者行微血管减压术的有效性和安全性。**方法** 采用微血管减压术治疗80例原发性三叉神经痛患者(包括单责任血管48例、多责任血管32例),视觉模拟评分(VAS)评价疼痛程度,Brisman标准评价疗效并计算总有效率,记录术后并发症(包括发热、口角麻木、听力下降、短暂性滑车神经麻痹、手术切口红肿)和术后1年三叉神经痛复发率。**结果** 两组患者术后VAS评分低于术前且差异有统计学意义($F=5.871$,$P=0.000$),VAS评分组间差异无统计学意义($F=1.192$,$P=0.318$)。单责任血管组48例患者中治愈40例(83.33%)、显效4例(8.33%)、有效2例(4.17%),总有效率95.83%(46/48);7例(14.58%)出现术后并发症,包括发热4例(8.33%)、口角麻木1例(2.08%)、短暂性滑车神经麻痹2例(4.17%);2例(4.17%)复发。多责任血管组32例患者中治愈27例(84.38%)、显效3例(9.38%)、有效1例(3.13%),总有效率96.88%(31/32);6例(18.75%)出现术后并发症,包括发热4例(12.50%)、听力下降1例(3.13%)、手术切口红肿1例(3.13%);2例(6.25%)复发。两组总有效率($\chi^2=1.863$,$P=0.485$)、术后并发症发生率($\chi^2=2.119$,$P=0.378$)和复发率(校正$\chi^2=2.075$,$P=0.391$)差异均无统计学意义。**结论** 微血管减压术治疗单责任血管和多责任血管的三叉神经痛具有相似的疗效和安全性,具有临床应用价值。

【关键词】 三叉神经痛; 显微外科手术

Influence of number of offending vessels on clinical efficacy and safety of microvascular decompression in the treatment of trigeminal neuralgia

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【**Abstract**】 **Objective** To investigate the influence of the number of offending vessels on clinical efficacy and safety of microvascular decompression (MVD) in the treatment of trigeminal neuralgia (TN). **Methods** A total of 80 idiopathic TN patients underwent MVD were divided into 2 groups: single offending vessel group (N = 48) and multiple offending vessels group (N = 32). Visual Analogue Scale (VAS) was used to evaluate the degree of pain before and after surgery. Brisman Standard was used to evaluate curative effect and calculate total effective rate. Postoperative complications (fever, angular numbness, hearing loss, transient trochlear nerve palsy, swelling of incision) and recurrence rate one year after MVD were recorded. **Results** The VAS scores of 2 groups after operation were significantly lower than before operation ($F=5.871$, $P=0.000$). There was no significant difference on VAS scores between 2 groups ($F=1.192$, $P=0.318$). In 48 patients of single offending vessel group, 40 cases (83.33%) were cured, 4 cases (8.33%) had obvious effect, 2 cases (4.17%) were improved and 2 cases (4.17%) had no effect. The total effective rate was 95.83% (46/48). Seven cases (14.58%) presented postoperative complications, including fever in 4 cases (8.33%), angular numbness in one case (2.08%), transient trochlear nerve palsy in 2 cases (4.17%). TN recurred in 2 cases (4.17%). In 32 patients of multiple offending vessels group, 27 cases (84.38%) were cured, 3 cases (9.38%) had obvious effect, one case (3.13%) was improved and one case (3.13%) had no effect. The total effective rate was 96.88% (31/32). Six cases presented postoperative complications, including fever in 4 cases (12.50%), hearing loss in one case (3.13%), swelling of incision in one case (3.13%). TN recurred in 2 cases (6.25%). There were no significant differences in total effective

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rate (χ^2 = 1.863, P = 0.485), incidence of postoperative complication (χ^2 = 2.119, P = 0.378) and postoperative recurrence rate (adjusted χ^2 = 2.075, P = 0.391) between 2 groups. **Conclusions** MVD has similar clinical effects and safety in the treatment of TN patients with single or multiple offending vessels.

【**Key words**】 Trigeminal neuralgia; Microsurgery

原发性三叉神经痛是以三叉神经分布区针刺样或电击样剧烈疼痛反复发作为主要特征的常见神经系统疾病，可由咀嚼、刷牙等刺激诱发[1]。流行病学调查显示，原发性三叉神经痛以三叉神经V2和V3支受累最为常见，好发于中老年女性[2]。研究显示，周围血管压迫三叉神经脑干段是导致原发性三叉神经痛的主要机制之一，微血管减压术（MVD）是治疗原发性三叉神经痛特别是难治性三叉神经痛的主要方法[3]。既往研究多针对单责任血管，而多责任血管行微血管减压术能否获得相同疗效尚无定论。本研究采用微血管减压术治疗80例单责任血管和多责任血管的原发性三叉神经痛患者，探讨责任血管数目对微血管减压术有效性和安全性的影响，以为临床治疗原发性三叉神经痛提供依据。

资料与方法

一、临床资料

1. 纳入标准　（1）根据临床症状与体征、头部MRI三维稳态构成干扰（3D-CISS）序列和三维时间飞跃（3D-TOF）MRA明确诊断为原发性三叉神经痛。（2）年龄18～75岁。（3）常规药物治疗＞6个月，无效。（4）本研究经重庆市开州区人民医院道德伦理委员会审核批准，所有患者及其家属均知情同意并签署知情同意书。

2. 排除标准　（1）其他原因导致的三叉神经痛。（2）合并中枢神经系统恶性肿瘤、蛛网膜囊肿、颅内动-静脉畸形、颅内动脉瘤、多发性硬化。（3）合并肝、肾功能障碍。（4）妊娠期和哺乳期女性。

3. 一般资料　选择2014年1月–2015年12月在重庆市开州区人民医院神经外科行微血管减压术的原发性三叉神经痛患者共80例，男性35例，女性45例；年龄19～73岁，平均（59.30±6.71）岁；病程0.50～13.00年，平均（4.15±1.95）年；左侧三叉神经痛36例（45%），右侧三叉神经痛44例（55%）。根据责任血管数目，分为单责任血管组和多责任血管组。（1）单责任血管组：共计48例患者，男性21例，女性27例；年龄21～73岁，平均（59.35±6.72）岁；病程0.50～13.00年，平均（4.17±1.96）年；左侧三叉神经痛23例（47.92%），右侧三叉神经痛25例（52.08%）。（2）多责任血管组：共计32例患者，男性14例，女性18例；年龄19～71岁，平均（59.25±6.69）岁；病程0.50～12.00年，平均（4.12±1.93）年；左侧三叉神经痛13例（40.63%），右侧三叉神经痛19例（59.37%）。两组患者性别（χ^2 = 0.000，P = 1.000）、年龄（t = 0.948，P = 0.065）、病程（t = 0.911，P = 0.112）和疼痛侧别（χ^2 = 0.412，P = 0.521）差异无统计学意义，均衡可比。

二、研究方法

1. 微血管减压术　患者取健侧3/4侧俯卧位，全身麻醉，常规采用患侧枕下经乙状窦后入路，弧形切开乳突后发际内皮肤，切口长约5 cm；乳突牵开器撑开，做一类圆形骨瓣，直径约为22 mm；磨钻沿骨瓣轮廓打磨至硬脑膜后撬起骨瓣，骨窗显露范围为横窦下缘至乙状窦缘；手术显微镜下切开硬脑膜、蛛网膜，打开小脑脑桥池，释放脑脊液，牵拉小脑半球以确保充分显露脑桥小脑角（CPA）区；探查三叉神经走行区及其周围，确定责任血管（与三叉神经关系密切、甚至压迫三叉神经致其弯曲变形的血管即为责任血管）；剥离血管周围异常增厚的蛛网膜，充分松解并游离三叉神经和责任血管，二者之间垫Teflon垫片，如果责任血管为静脉，充分游离后电凝切断；严密缝合硬脑膜，复位骨瓣后逐层缝合至皮肤。

2. 疗效和安全性评价　（1）疼痛程度：分别于术前和术后7 d采用视觉模拟评分（VAS）评价疼痛程度[4]，总评分为10分，在纸上划一10 cm横线，横线一端为0分，表示无疼痛；另一端为10分，表示剧烈疼痛，患者自行评价，评分越高、疼痛程度越严重。（2）总有效率：据Brisman标准评价疗效，治愈，术后疼痛完全缓解；显效，术后VAS评分减分率[减分率（%）=（术前VAS评分－术后VAS评分）/术前VAS评分×100%]＞90%；有效，术后VAS评分减分率50%～90%；无效，术后VAS评分减分率＜50%[4]。计算治疗总有效率，总有效率（%）=（治愈例数＋显

表1 两组患者手术前后VAS评分的比较($\bar{x} \pm s$,评分)

Table 1. Comparison of VAS scores before and after operation between 2 groups ($\bar{x} \pm s$, score)

Group	N	Before treatment	After treatment
Single offending vessel	48	7.18 ± 1.29	0.98 ± 0.19
Multiple offending vessels	32	7.25 ± 1.32	1.06 ± 0.21

表2 两组患者手术前后VAS评分的前后测量设计的方差分析表

Table 2. ANOVA of pretest and posttest measurement design for VAS scores before and after operation between 2 groups

Variation	*SS*	df	*MS*	*F* value	*P* value
Treatment	5.937	1	5.937	1.192	0.318
Time	4.062	3	1.354	5.871	0.000
Treatment × time	2.194	3	0.731	0.161	0.922
Error between groups	413.052	79	5.229		
Error within group	68.440	240	0.285		

效例数+有效例数)/总例数×100%。(3)术后并发症:记录术后并发症,包括发热、口角麻木、听力下降、短暂性滑车神经麻痹、手术切口红肿等。(4)复发:术后随访1年,记录三叉神经痛复发率。

3.统计分析方法 采用SPSS 20.0统计软件进行数据处理与分析。计数资料以相对数构成比(%)或率(%)表示,采用χ^2检验。呈正态分布的计量资料以均数±标准差($\bar{x} \pm s$)表示,行两独立样本的t检验;两组患者手术前后VAS评分的比较采用前后测量设计的方差分析。以$P \leqslant 0.05$为差异具有统计学意义。

结 果

两组患者术后VAS评分低于术前且差异有统计学意义($P = 0.000$),表明无论单责任血管微血管减压术还是多责任血管微血管减压术均有效;两组患者VAS评分差异无统计学意义($P = 0.318$),表明多责任血管微血管减压术的疗效与单责任血管微血管减压术相近(表1,2)。

本组80例患者微血管减压术后治愈67例(83.75%)、显效7例(8.75%)、有效3例(3.75%)、无效3例(3.75%),总有效率为96.25%(77/80),其中,单责任血管组48例患者中治愈40例(83.33%)、显效4例(8.33%)、有效2例(4.17%)、无效2例(4.17%),总有效率为95.83%(46/48);多责任血管组32例患者中治愈27例(84.38%)、显效3例(9.38%)、有效1例(3.13%)、无效1例(3.13%),总有效率为96.88%(31/32);两组治疗总有效率差异无统计学意义($\chi^2 = 1.863$,$P = 0.485$)。

本组80例患者中13例(16.25%)出现术后并发症,包括发热8例(10%)、口角麻木1例(1.25%)、听力下降1例(1.25%)、短暂性滑车神经麻痹2例(2.50%)、手术切口红肿1例(1.25%),其中,单责任血管组48例患者中7例(14.58%)出现术后并发症,包括发热4例(8.33%)、口角麻木1例(2.08%)、短暂性滑车神经麻痹2例(4.16%);多责任血管组32例患者中6例(18.75%)出现术后并发症,分别为发热4例(12.50%)、听力下降1例(3.13%)、手术切口红肿1例(3.13%);两组术后并发症发生率差异无统计学意义($\chi^2 = 2.119$,$P = 0.378$)。

术后均随访1年,80例患者中4例(5%)复发,其中单责任血管组2例(4.17%,2/48)、多责任血管组2例(6.25%,2/32),两组复发率差异无统计学意义(校正$\chi^2 = 2.075$,$P = 0.391$)。

讨 论

原发性三叉神经痛属神经病理性疼痛,主要表现为单侧或双侧面部三叉神经分布区反复性、阵发性剧烈疼痛,急性发作时呈电击样、针刺样疼痛,持续数秒至数分钟,常难以忍受,给患者工作和生活带来严重影响[5]。原发性三叉神经痛的诊断主要依靠典型临床症状与体征及影像学检查,卡马西平、苯妥英钠等常规药物治疗无效者推荐尽早行微血管减压术[6]。

原发性三叉神经痛的发生机制尚未完全阐明,多数学者认为,三叉神经入脑桥区(REZ)被周围血管压迫而诱发髓鞘脱失在疾病的发生与发展中发挥关键作用[7]。微血管减压术是目前常规药物治疗无效后的主要方法之一,部分无明显血管压迫的患者也可以采用此方法缓解疼痛[8]。而经耳后切口对压迫三叉神经的血管进行分离,可以有效缓解局部压迫症状,减轻疼痛;同时,手术显微镜有助于多角度清晰确认责任血管和三叉神经原始走行,有效避免遗漏责任血管、盲目牵拉等,对降低术后面神经感觉异常具有重要意义[9-10]。

相较其他侵袭性治疗方法,微血管减压术具有远期疗效较高和复发率较低等优势[11]。国外研究显示,长期药物治疗可能增加不可逆性三叉神经损害的风险,故对于可以耐受手术的患者,应首选微

血管减压术以改善远期预后;同时,良好疗效亦有助于促进患者社交活动的恢复,改善心理状态[12]。既往研究主要集中于单责任血管的三叉神经痛患者,对于多责任血管患者,微血管减压术的有效性和安全性尚缺乏研究证实[13]。

本研究结果显示,单责任血管组与多责任血管组患者治疗总有效率差异无统计学意义,表明多责任血管并未影响微血管减压术的疗效;既往有文献报道,多责任血管的三叉神经痛患者手术时间明显延长,且对于细小血管电凝更易灼伤三叉神经或脑干,而放弃部分责任血管则可能导致局部松解不完全,从而导致手术疗效降低[14-15]。笔者认为,可能与术者手术操作水平、患者年龄和病程等有关。本研究单责任血管组与多责任血管组患者术后并发症发生率和复发率差异亦无统计学意义,表明多责任血管并未影响微血管减压术的安全性,与以往研究相一致[16]。

综上所述,多责任血管的原发性三叉神经痛患者行微血管减压术的疗效和安全性与单责任血管患者相近,具有临床应用价值。但是受到本研究样本量较小、随访时间较短、单中心和非随机对照等因素的限制,所得结论尚待更大规模的临床研究进一步证实。

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