·论　著·

行血管内治疗的高龄颅内动脉瘤患者脑血管痉挛的临床分析

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【摘要】**目的** 评估70岁以上老年人动脉瘤性蛛网膜下腔出血(aSAH)患者行血管内治疗发生症状性脑血管痉挛(SCVS)的临床治疗效果。**方法** 44例aSHA患者分为两组:低龄组(<70岁,32例)和高龄组(≥70岁,12例)。分析两组患者的临床特征、SCVS的发生率、改良Rankin量表(mRS)评分、以及mRS评分为3~6分患者的SCVS发生率。**结果** 高龄组患者的SCVS发生率(58.3%)显著高于低龄组(12.5%;*P*<0.05)。对于mRS评分为3~6分患者,高龄组SCVS发生率(58.3%)显著高于低龄组(17.4%;*P*<0.05)。**结论** 对于行血管内治疗的aSAH患者,≥70岁患者更易发生SCVS,从而导致更差的临床疗效和预后。

【关键词】动脉瘤性蛛网膜下腔出血;血管内治疗;脑血管痉挛;老年人

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Clinical analysis of symptomatic cerebral vasospasm after endovascular treatment of ruptured cerebral aneurysms in patients of 70 and over 70 years

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【**Abstract**】**Objective** To explore the curative effect on symptomatic cerebral vasospasm (SCVS) after aneurysmal subarachnoid hemorrhage (aSAH) in patients of 70 and over 70 years who underwent the endovascular therapy. **Methods** Forty-four patients with ruptured intracranial aneurysms were divided into two groups according to patient age, i.e. group A, in which there were 32 patients under 70 years of age, and group B, there were 12 patients of 70 and over 70 years. The clinical characteristics, incidence of SCVS and modified Rankin scale (mRS) scores were analyzed and compared between both the groups. **Results** The incidence of SVCS (58.3%, 7/12) was significantly higher in group B than that (12.5%, 4/32) in group A (*P*<0.01). The incidence of SCVS (58.3%, 7/12) was significantly higher in 12 patients with mRS 3~6 cores of group B than that (17.4%, 4/23) in 23 patients with mRS 3~6 scores of group A (*P*<0.05). **Conclusion** The prognosis is worse in aSAH patients of 70 and over 70 years than that in the aSAH patients under 70 years after the endovascular treatment because the former easilier suffered from SCVS than the latter after the endovascular treatment.

【**Key words**】Aneurysmal subarachnoid hemorrhage; Endvascular therapy; Symptomatic cerebral vasospasm

老年动脉瘤性蛛网膜下腔出血(aneurismal subarachnoid hemorrhage, aSAH)的发病率呈逐年增高趋势,并且破裂动脉瘤的大小与年龄呈正相关[1,2]。老年动脉瘤患者行血管内治疗具有微创、术后恢复快等优势[3]。症状性脑血管痉挛(symptomatic vasospasm, SCVS)是导致aSAH患者死亡、残疾的重要因素。目前,年龄因素与SCVS发生率的关系尚不清楚。本研究评估血管内治疗高龄破裂动脉瘤患者的临床疗效,探讨年龄因素与SCVS发生率的关系。

1 资料与方法

1.1 *病例选择标准* 入选标准:①年龄均大于60岁;②经头部CT发现SAH;③经CT血管造影(CT angiography, CTA)或DSA证实为颅内动脉瘤破裂;④采用血管内治疗。排除标准:①患有心肌梗死等血栓形成性疾病,或有明显出血倾向、血小板数量小于100×10^9/L或大于300×10^9/L;②近半个月服用过影响血小板功能的药物;③患有恶性肿瘤、自身免疫性疾病以及严重心、肝、肾等脏器疾病。

1.2 *研究对象* 2006~2013年收治符合上述标准的aSAH患者44例,其中男26例,女18例;年龄63~76岁,平均67.5岁。依据年龄分为两组:低龄组(年龄为60~69岁;32例)和高龄组(年龄≥70岁;12例)。低龄组中,男20例,女12例;动脉瘤位于前循环19例、后循环13例;术前Hunt-Hess分级Ⅰ级3例,Ⅱ级8例,Ⅲ级11例,Ⅳ级10例;术前Fisher分级2级2例,3级30例。高龄组中,男6例,女6例;动脉瘤位于前循环11例、后循环1例;术前Hunt-Hess分级Ⅰ

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级3例，Ⅱ级3例，Ⅲ级2例，Ⅳ级4例；术前Fisher分级2级3例，3级9例。两组患者性别、术前Hunt-Hess分级、术前Fisher分级无统计学差异（P>0.05）。

1.3 治疗方法　44例患者均行血管内治疗，其中10例应用支架辅助技术，5例应用双导管技术。因均为高龄患者，术后未行“三高”治疗，并予尼莫地平持续静脉泵入。对出现脑缺血症状、诊断为SCVS的患者，予轻度高血压、高血容量治疗，并行腰椎穿刺术释放血性脑脊液，必要时在DSA引导下行血管成形术。

1.4 SCVS的诊断标准[4]　①出现逐渐加重的神经功能障碍、波动性局灶性神经功能缺损、意识水平下降、运动麻痹及恶化性头痛等；②排除引起神经功能恶化的其它原因；③DSA或经颅多普勒超声检查证实。

1.5 统计学方法　应用SPSS 15.0软件分析，计量资料以$\bar{x}\pm s$表示，采用t检验或非参数秩和检验；计数资料采用χ^2检验；以P<0.05为差异有统计学意义。

2 结 果

2.1 SCVS和脑梗死的发生率　低龄组SCVS发生率（12.5%，4/32）明显低于高龄组（58.3%，7/12；P<0.05）；而且，低龄组脑梗死发生率（3.1%，1/32）也明显低于高龄组（33.3%，4/12；P<0.05）。

2.2 改良Rankin量表（modified Rankin scale，mRS）评分　低龄组mRS评分[（3.0±1.35）分]显著低于高龄组[（4.0±0.74）分；P<0.05]。这提示70岁及以上老年患者预后更差。

2.3 发生SCVS患者的临床疗效及预后　两组患者中mRS评分为0~2分的均无SCVS发生，mRS评分3~6分的患者（低龄组23例，高龄组12例），低龄组有4例（17.4%）发生SCVS，高龄组有7例（58.3%）。两组间有统计学差异（P<0.05）。

3 讨 论

本研究比较了行血管内治疗的60~69岁及≥70岁aSAH患者的SCVS发生率、临床疗效及预后，研究结果发现与低龄组相比，高龄组SCVS的发生率显著升高；此外，对于mRS评分3~6分的患者，高龄组SCVS的发生率也显著性高于低龄组。研究结果说明在行血管内治疗的老年aSAH患者，年龄是导致SCVS发生的高危因素，影响预后与临床疗效。

有文献报道，在SAH人群中，年轻患者更倾向于发生SCVS，提示高峰发病年龄为40~59岁[5]。而本研究针对的是行血管内治疗的老年aSAH患者。老年aSAH患者SCVS发生率较高的机制，可能是因为老年患者大多存在动脉粥样硬化改变，导致脑血管顺应性下降[6]，血管内的血凝块难以完全清除。且高龄患者脑耐受缺血的能力远低于青壮年，可能是因为脑血流量下降，脑灌注压减少，血管的自我调节能力的下降及血管再生能力的损害，所以极易转变成脑梗死。本研究也表明，高龄组脑梗死发生率，明显高于低龄组。

有一些学者认为外科手术治疗可以减少SCVS的发生，也有研究认为治疗方法不影响SCVS的发生[9]。因此，本研究进一步分析了行血管内治疗的aSAH人群发生SCVS的风险，结果提示高龄是导致SCVS发生的高危因素。本研究也有一定的局限性，应该建立更大的样本。

老年aSAH患者之所以临床疗效较差，可能与脑萎缩、较低的神经功能评分、再出血、电解质紊乱、基础疾病较多等因素相关[8,9]，应该是多因素共同作用的结果，但是在这多种因素中，只有SCVS是可以在围手术期的短时间内通过各种方法予以控制的。有研究表明，术后通过腰椎穿刺术释放血性脑脊液，可以显著降低SCVS的发生率，并提高临床疗效[10]。本研究中的70岁及以上患者，其较高的SCVS发生率也可能与难以行腰椎穿刺术有关，因为高龄患者往往无法配合或存在较严重的腰椎退行性变等改变而致穿刺失败。因此，对于老年aSAH患者的SCVS，尤其是≥70岁患者，应该争取早期评估、诊断、治疗，以提高临床疗效及预后。

我国已经进入老年化社会，且aSAH发病率与年龄呈正相关[1]。本研究表明，血管内治疗后，高龄组aSAH的SCVS发生率显著高于低龄组，从而导致更差的临床疗效及预后。随着SCVS早期诊断及治疗的进展，≥70岁及以上组有望获得更好的临床疗效。

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