

伴发良性阵发性位置性眩晕的急性前庭神经炎的 临床特点分析

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摘要 目的:了解前庭神经炎(VN)合并良性阵发性位置性眩晕(BPPV)的临床特点。**方法:**收集VN患者236例的临床资料,根据是否伴发BPPV分为对照组(不伴BPPV)和观察组(伴发BPPV),分析2组的临床特征、冷热实验结果;观察VN伴发BPPV的手法复位治疗效果;并于治疗前、治疗第10、20和30天采用眩晕残障程度评定量表(DHI)分析2组疗效。**结果:**本组236例VN患者中发病1月内伴发BPPV 23例,发生在VN同侧18例,发生在对侧5例;其中20例为后半规管BPPV,3例为水平半规管BPPV;其中5例经1次手法复位后体位性眩晕明显缓解,10例经2次手法复位后缓解,8例经3次手法复位后缓解。冷热实验异常率对照组为65.87%,显著低于观察组的86.96% ($P<0.05$)。2组治疗前和治疗10 d时DHI评分差异无统计学意义,治疗20和30 d时观察组DHI评分显著高于对照组 ($P<0.05$)。**结论:**VN患者中部分会伴发BPPV,伴发BPPV的VN患者冷热实验结果异常率较高,病情缓解慢,手法复位多需2次以上。

关键词 前庭神经炎;良性阵发性位置性眩晕;临床特征

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Clinical Characteristics of Benign Paroxysmal Positional Vertigo in Patients with Vestibular Neuritis YAN Gang-li, LI Feng-guang, LI Chao-wu, NIE Hai-ling. Department of Neurology, The Chinese PLA 161th Hospital, Wuhan 430012, China

Abstract Objective: To investigate the clinical characteristics of Benign Paroxysmal Positional Vertigo (BPPV) in patients with vestibular neuritis (VN). **Methods:** Clinical data of 236 patients diagnosed with VN were collected and divided based on occurrence of BPPV into the control group (without BPPV) and observation group (with BPPV). The clinical characteristics and caloric test results of the two groups were analyzed. The effectiveness of manual maneuvers in VN with BPPV was observed. The Dizziness Handicap Inventory (DHI) was applied before treatment and on Days 10, 20, and 30 of treatment to analyze treatment effectiveness. **Results:** Of the 236 VN cases studied, 23 cases developed BPPV within one month of disease onset. Of these, 18 cases were limited to the ipsilateral side of VN and 5 cases were limited to contralateral side of VN. In all, 20 cases were PC-BPPV and 3 were HC-BPPV. Five cases showed significant improvement in BPPV after 1 maneuver treatment; 10 cases showed improvement after 2 maneuver treatments; 8 cases showed improvement after 3 maneuver treatments. The rate of abnormal caloric test results within the control group was 65.87%, which was significantly lower than the 86.96% within the observation group ($P<0.05$). There was no significant difference between the two groups in the DHI scores obtained pre-treatment and on Day 10 of treatment. DHI scores on Days 20 and 30 of treatment were significantly higher in the observation group than those in the control group ($P<0.05$). **Conclusion:** VN is accompanied by BPPV in some patients. In VN patients with BPPV, the incidence of abnormal caloric test results is relatively high, recovery is slow, and 2 or more manual maneuver treatments are generally needed.

Key words vestibular neuritis; benign paroxysmal positional vertigo; clinical characteristics

急性前庭神经炎(vestibular neuritis, VN)是常见的周围性眩晕疾病,主要表现为急性突发性眩晕、恶心、呕吐及平衡功能障碍等。VN患者的眩晕可持续数天到数周,查体常可发现水平略带扭转的眼震,患侧甩头实验阳性和眼偏斜反应等。VN的发病率约为3.5-15.5/10万,其诊断主要依据病史和单侧前庭功能下降,不伴有耳蜗症状^[1-3]。良性阵发性位置性眩晕(benign paroxysmal

positional vertigo, BPPV)是由重力方向的头部运动引起的短暂发作性眩晕,伴有体位相关性眼震,约18%的BPPV继发于前庭性疾病,如梅尼埃病、迷路炎、突聋和VN等^[4-7]。本文通过对23例伴发BPPV的VN病例的回顾性分析,总结其临床特点,以期减少漏诊和误诊。

1 资料与方法

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1.1 一般资料

选择2015年4月至2017年10月我科住院治疗的急性VN 236例的临床资料。

1.2 纳入及排除标准

纳入标准:①符合急性VN的诊断标准^[8-11]:突发眩晕,至少持续24 h以上;平衡障碍,活动时症状加重;自发性水平或水平-旋转性眼震;单侧甩头试验阳性(2名有经验的医生查体且都判断为阳性);冷热实验显示一侧半规管功能减退;不伴随听觉损害症状和中枢神经系统体征。②符合美国耳鼻喉头颈外科学会2007年颁布的BPPV诊断标准^[12-14]:后半规管和前半规管BPPV使用Dix-hallpike试验诊断;水平半规管BPPV使用仰卧翻滚试验(supine Roll-test, SRT)诊断。Dix-hallpike检查时,患者取坐位,头向检查侧转动45°,快速躺下,悬头位20~30°,出现向上向地的眼震,持续时间<1 min,诊断为检查侧后半规管管结石;眼震持续时间>1 min,诊断为检查侧后半规管嵴帽结石;如果出现垂直向下的眼震,即诊断为前半规管耳石。SRT检查时患者取仰卧位,头向左转动45°,待眼震消失30 s后,头回到仰卧位,再将头向右转动45°,观察两侧眼震的强度和方向,如果出现向地眼震,则诊断为水平半规管管结石,眼震强侧为患侧;如果出现离地眼震,诊断为水平半规管嵴帽结石,眼震弱侧为患侧。

排除标准:严重的心肝肾功能损害患者;MRI+DWI确诊为后循环脑梗死或其他中枢性疾病患者。

1.3 方法

1.3.1 冷热实验 应用尔听美眼震记录仪(Type 1068)检测。暗室环境下,患者佩戴VNG眼罩,仰卧位抬高头部30°,采用先左侧后右侧、先冷气(30℃)后热气(50℃)的顺序刺激40 s,无自发性眼震记录20 s,有自发性眼震记录60 s。每次灌气间隔为眼震消失后5 min。4次灌气结束后利用慢向角速度计算半规管轻瘫(canal paresis, CP)值, $CP = |(LW+LC)-(RW+RC)| / (LW+LC+RW+RC) \times 100\%$ 。CP>20%为单侧前庭功能减退,即判读为冷热实验异常。

1.3.2 治疗 根据是否伴发BPPV,将入组的VN患者分为对照组(不伴BPPV)和观察组(伴BPPV)。所有患者均给予常规治疗:即口服波尼松龙(1 mg/kg, 1周后逐步减量),倍他司汀12 mg, 3次/日,同时给予头动训练和平衡协同康复训练。观察组在常规治疗的基础上均使用手法复位治疗。后半规管BPPV采用Sement法复位:患者取坐位,向健侧转头45°,快速向患侧倒下,30 s后头位不变,快速向健侧倒下,60 s后坐起。水

平管管结石采用Gufoni复位法:患者取坐位,向健侧倒,30 s后向下甩头,1 min后坐起,复位后健侧躺。水平管嵴帽结石采用Gufoni复位法:患者取坐位,向患侧倒,30 s后向上甩头3次,1 min后坐起。再使用SRT判断耳石是否从嵴帽结石转为管结石,如果仍为离地性眼震,则重复上述步骤;如果为向地性眼震,则按照水平管管结石Gufoni法复位,复位后患侧卧位。每天操作1次,次日体位诱发试验评估手法复位是否成功。

于治疗前、治疗第10、20和30天观察患者的眩晕、恶心、眼震消失及症状缓解的程度,采用眩晕残障程度评定量表(dizziness handicap inventory, DHI)测评^[15, 16]。

1.4 统计学处理

采用SPSS 18.0软件处理数据。计量资料以 $(\bar{x} \pm s)$ 表示,组间比较采用独立样本均数 t 检验;计数资料以率表示,组间比较采用 χ^2 检验; $P < 0.05$ 为差异有统计学意义。

2 结果

2.1 临床特征

本组236例VN患者中观察组23例(9.7%),男10例,女13例,平均年龄 (43.13 ± 16.08) 岁;对照组213例,男102例,女111例,平均年龄 (41.41 ± 13.06) 岁,2组性别、年龄差异无统计学意义($P = 0.69, 0.56$)。观察组23例患者BPPV均在VN发病1月内出现,BPPV眩晕距VN发病时间4~28 d,平均 (16.42 ± 6.84) d;BPPV发生在VN同侧18例,发生在VN对侧5例;伴发后半规管BPPV20例,水平半规管BPPV3例。

2.2 冷热实验结果

观察组23例患者均完成冷热实验,CP异常20例(86.96%),其中18例与VN和BPPV同侧,16例为同侧后半规管管结石,1例为同侧后半规管嵴帽结石,1例为同侧水平管管结石;2例与VN同侧,在BPPV对侧,其中1例为对侧后半规管管结石,1例为对侧水平半规管管结石。对照组213例患者中,167例完成冷热实验,CP异常110例(65.87%),均与VN同侧。观察组冷热实验CP异常率大于对照组($P = 0.04$)。

2.3 BPPV手法复位疗效

观察组23例BPPV患者中5例经1次手法复位后体位性眩晕明显缓解,5例均为后半规管管结石;10例经2次手法复位后缓解,其中8例为后半规管管结石,1例为后半规管嵴帽结石,1例为水平半规管管结石;8例经3次手法复位后缓解,其中5例为后半规管管结石,1例为后半规管嵴帽结石,1例为水平管管结石,1

例为水平管嵴帽结石。

2.4 2组疗效比较

治疗前及治疗后 10 d,2组 DHI 评分差异无统计学意义 ($P>0.05$), 治疗后 20 及 30 d, 观察组的 DHI 评分显著高于对照组 ($P<0.05$), 见表 1。

表1 2组DHI评分比较(分, $\bar{x}\pm s$)

组别	例数	治疗前	治疗 10 天
对照组	213	55.26±16.31	38.88±11.71
观察组	23	54.35±18.32	41.70±16.90
P 值		0.80	0.44

组别	治疗 20 天	治疗 30 天
对照组	22.64±8.10	11.73±4.84
观察组	28.70±8.78	16.96±5.80
P 值	0.00	0.00

3 讨论

目前 BPPV 的机制尚不完全明确,多数观点认为 BPPV 是由于缺血、炎症外伤、营养等多种因素引起的椭圆囊的耳石膜破坏,耳石裸露脱落进入半规管,在重力作用下耳石在半规管移动带动内淋巴流动,导致异常的毛细胞兴奋,从而引起患者眩晕、恶心、呕吐等症状^[17-19]。BPPV 的终身患病率为 2.9%,复发率 50%,发病率随年龄增长,女性发病率为男性的 2~3 倍^[20]。BPPV 可分为特发性 BPPV 和继发性 BPPV。继发性 BPPV 多继发于突聋、外伤、梅尼埃病、VN 及前庭性偏头痛等。VN 伴发 BPPV 的病因学说主要有 2 种机制假说^[21, 22]:①VN 造成耳石器耳石膜营养缺乏破裂,导致耳石脱落进入半规管;②VN 影响内淋巴溶解和暗细胞吸收,导致耳石沉积。

既往文献报道 VN 患者中 10%~31% 伴发 BPPV^[23, 24], 而本研究发现其发病率为 9.7%, 低于文献报道, 发病率差异可能由于随访时间的差异造成。

本研究 VN 伴发 BPPV 患者 23 例中, 有 18 例 (78.26%) 发生在 VN 同侧, 5 例 (21.74%) 在 VN 对侧, 后半规管 BPPV 20 例 (86.96%), 水平半规管 BPPV 3 例 (13.04%), 无前半规管 BPPV。由于 BPPV 的发生与椭圆囊功能相关, 该结果说明多数 VN 影响到了同侧椭圆囊, 这与 VN 的发生部位相关。前庭神经分为前庭上神经和前庭下神经。由于前庭上神经走行的骨性管腔较为狭长, 故前庭上神经炎最为常见, 约占 55%, 其次为全 VN, 约 35%, 发病率最低的为前庭下神经炎^[8]。前庭上神经主要支配前半规管、上半规管、椭圆囊和部分球囊, 因此 VN 容易损害同侧椭圆囊功能引起耳石

脱落, 而后半规管的开口向上, 耳石一旦进入后半规管很难自行复位, 导致后半规管 BPPV 在 VN 多发。

继发于 VN 的 BPPV 中 18 例 (78.26%) 需要 2 次以上的手法复位治疗, 手法复位疗效较特发性 BPPV 效果差。分析其可能的原因为 VN 导致椭圆囊的耳石膜破裂, 耳石无法通过囊斑回位吸收; 耳石膜的破坏导致耳石颗粒不断脱落; VN 影响耳石吸收。

本研究还发现, 观察组发病前和治疗 10 d 时 DHI 评分与对照组无差异, 但治疗 20 和 30 d 时 DHI 评分较对照组明显降低, 说明伴发 BPPV 的 VN 病情缓解较慢。BPPV 引起的位置性眩晕导致患者对体位变化等前庭康复治疗产生恐惧畏难心理、BPPV 手法复位后残留症状加重 VN 的临床症状等均导致患者无法早期积极前庭康复, 前庭代偿的速度较无 BPPV 的 VN 患者慢。

本研究中 VN 伴发 BPPV 的发病率并不高, 易出现漏诊和误诊, 在 VN 治疗过程可导致患者临床症状加重而延误治疗。因此当 VN 患者出现眩晕复发或加重时, 需完善体位诱发实验等床旁查体, 及早对 BPPV 进行治疗, 以免漏诊。同时要详细和患者解释症状加重的原因, 鼓励患者尽早进行习服、适应前庭康复训练, 促进前庭代偿。

参考文献

[1] Buki B, Hanschek M, Junger H. Vestibular neuritis: Involvement and long-term recovery of individual semicircular canals[J]. AurisNasus Larynx, 2017, 44: 288-293.

[2] Bisdorff A. Vestibular symptoms and history taking[J]. Handb Clin Neurol, 2016, 137: 83-90.

[3] Lee SU, Park SH, Kim HJ, et al. Normal Caloric Responses during Acute Phase of Vestibular Neuritis[J]. J Clin Neurol, 2016, 12: 301-307.

[4] Jung JY, Kim SH. Comparison between objective and subjective benign paroxysmal positional vertigo: clinical features and outcomes[J]. Acta Otolaryngol, 2016, 136: 1267-1272.

[5] Sheikhzadeh M, Lotfi Y, Mousavi A, et al. Influence of supplemental vitamin D on intensity of benign paroxysmal positional vertigo: A longitudinal clinical study [J]. Caspian J Intern Med, 2016, 7: 93-98.

[6] Gucluturk MT, Unal ZN, Ismi O, et al. The Role of Oxidative Stress and Inflammatory Mediators in Benign Paroxysmal Positional Vertigo [J]. J Int Adv Otol, 2016, 12: 101-105.

[7] Seemungal BM. Screening for BPPV in falls: an easy but big clinical "win" [J]. BMJ, 2016, 353: i3004.

[8] Taylor RL, McGarvie LA, Reid N, et al. Vestibular neuritis affects both superior and inferior vestibular nerves [J]. Neurology, 2016, 87: 1704-1712.

[9] Uffer DS, Hegemann SC. About the pathophysiology of acute unilateral vestibular deficit - vestibular neuritis (VN) or peripheral vestibulopathy (PVP)[J]? J Vestib Res, 2016, 26: 311-317.

[10] Willms JF, Baltsavias G, Burkhardt JK, et al. Missed Anterior Inferior Cerebellar Artery Aneurysm Mimicking Vestibular Neuritis-Clues to Prevent Misdiagnosis[J]. J Stroke Cerebrovasc Dis, 2016, 25: e231-e232.

[11] Lee HY, Kim JC, Chang DS, et al. Unidentified Bright Objects on

- [5] Wilamowska ZA, Thompson-Hollands J, Fairholme CP, et al. Conceptual background, development, and preliminary data from the unified protocol for transdiagnostic treatment of emotional disorders[J]. *Depress Anxiety*, 2010, 27: 882-890.
- [6] 陈语, 赵鑫, 黄俊红, 等. 正念冥想对情绪的调节作用:理论与神经机制[J]. *心理科学进展*, 2011, 19: 1502-1510.
- [7] 夏锐, 周文姬, 郑国华. 运动疗法对轻度认知障碍患者注意力影响的研究进展[J]. *神经损伤与功能重建*, 2017, 12: 55-57.
- [8] Ni M, Signorile JF, Mooney K, et al. Comparative Effect of Power Training and High-Speed Yoga on Motor Function in Older Patients With Parkinson Disease[J]. *Arch Phys Med Rehabil*, 2016, 97: 345-354.
- [9] Haider T, Sharma M, Branscum P. Yoga as an Alternative and Complimentary Therapy for Cardiovascular Disease: A Systematic Review [J]. *J Evid Based Complementary Altern Med*, 2017, 22: 310-316.
- [10] Field T. Yoga research review[J]. *Complement TherClinPract*, 2016, 24: 145-161.
- [11] Chang DG, Holt JA, Sklar M, et al. Yoga as a treatment for chronic low back pain: A systematic review of the literature[J]. *J Orthop Rheumatol*, 2016, 3: 1-8.
- [12] Frank JL, Bose B, Schrobenhauser-Clonan A. Effectiveness of a School-Based Yoga Program on Adolescent Mental Health, Stress Coping Strategies, and Attitudes Toward Violence: Findings From a High-Risk Sample[J]. *J Appl Psychol*, 2014, 30: 29-49.
- [13] Cramer H, Lauche R, Klose P, et al. Yoga for improving health-related quality of life, mental health and cancer-related symptoms in women diagnosed with breast cancer[J]. *Cochrane Database Syst Rev*, 2017, 1: CD010802.
- [14] Zechmeister, Eugene B. Research methods in psychology[M]. McGraw-Hill, 1997: 497-510.
- [15] 权朝鲁. 效果量的意义及测定方法[J]. *心理学探新*, 2003: 39-44.
- [16] Maher CG, Sherrington C, Herbert RD et al. Reliability of the PEDro Scale for Rating Quality of Randomized Controlled Trials[J]. *PhysTher*, 2003, 83: 713-721.
- [17] 曾宪涛, 包翠萍, 曹世义, 等. Meta分析系列之三:随机对照试验的质量评价工具[J]. *中国循证心血管医学杂志*, 2012, 4: 183-185.
- [18] Martin A. Multi-component yoga breath program for Vietnam veteran post traumatic stress disorder: randomized controlled trial[J]. *J Affect Disord*, 2013, 2: 1-10.
- [19] Mitchell KS, Dick AM, Dimartino DM, et al. A pilot study of a randomized controlled trial of yoga as an intervention for PTSD symptoms in women[J]. *J Trauma Stress*, 2014, 27: 121-128.
- [20] Van BA, Stone L, West J, et al. Yoga as an Adjunctive Treatment for Posttraumatic Stress Disorder: A Randomized Controlled Trial[J]. *J Clin Psychiatry*, 2014, 75: e559-e565.
- [21] Seppälä EM, Nitschke JB, Tudorascu DL, et al. Breathing-Based Meditation Decreases Posttraumatic Stress Disorder Symptoms in U.S. Military Veterans: A Randomized Controlled Longitudinal Study[J]. *J Trauma Stress*, 2014, 27: 397-405.
- [22] Jindani F, Turner N, Khalsa SB. A Yoga Intervention for Posttraumatic Stress: A Preliminary Randomized Control Trial[J]. *Evid Based Complement Alternat Med*, 2015, 2015: 1-8.
- [23] Quiñones N, Maquet YG, Vélez DM, et al. Efficacy of a Satyananda Yoga Intervention for Reintegrating Adults Diagnosed with Posttraumatic Stress Disorder[J]. *Int J Yoga Therap*, 2015, 25: 89-99.
- [24] Rhodes A, Spinazzola J, Van dKB. Yoga for Adult Women with Chronic PTSD: A Long-Term Follow-Up Study[J]. *J Altern Complement Med*, 2016, 22: 189-196.
- [25] 张辉华, 王辉. 个体情绪智力与工作场所绩效关系的元分析[J]. *心理学报*, 2011, 43: 188-202.
- [26] Henry GT. Practical sampling. Applied Social Research Methods[M]. New York: Sage Publications, 1990: 101-126.
- [27] Higgins JP, Thompson SG, Deeks JJ. Measuring inconsistency in meta-analyses[J]. *BMJ*, 2003, 327: 557-560.
- [28] Bradley R, Greene J, Russ E, et al. A Multidimensional Meta-Analysis of Psychotherapy for PTSD[J]. *Am J Psychiatry*, 2005, 162: 214-227.
- [29] Mo YL, Zaharlick A, Akers D, et al. Meditation and Treatment of Female Trauma Survivors of Interpersonal Abuses: Utilizing Clients' Strengths[J]. *Fam Soc*, 2002, 92: 41-49.

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- Brain Magnetic Resonance Imaging Affect Vestibular Neuritis[J]. *Clin Exp Otorhinolaryngol*, 2015, 8: 364-369.
- [12] Bhattacharyya N, Hollingsworth DB, Mahoney K, et al. Plain Language Summary: Benign Paroxysmal Positional Vertigo[J]. *Otolaryngol Head Neck Surg*, 2017, 156: 417-425.
- [13] Yang XK, Zheng YY, Yang XG. Theoretical observation on diagnosis maneuver for benign paroxysmal positional vertigo[J]. *Acta Otolaryngol*, 2017, 137: 567-571.
- [14] Ichijo H. Onset time of benign paroxysmal positional vertigo[J]. *Acta Otolaryngol*, 2017, 137: 144-148.
- [15] Muncie HL, Sirmans SM, James E. Dizziness: Approach to Evaluation and Management[J]. *Am Fam Physician*, 2017, 95: 154-162.
- [16] Petri M, Chirila M, Bolboaca SD, et al. Health-related quality of life and disability in patients with acute unilateral peripheral vestibular disorders[J]. *Braz J Otorhinolaryngol*, 2017, 83: 611-618.
- [17] Balatsouras DG, Koukoutsis G, Aspris A, et al. Benign Paroxysmal Positional Vertigo Secondary to Mild Head Trauma[J]. *Ann Otol Rhinol Laryngol*, 2017, 126: 54-60.
- [18] Kao WT, Parnes LS, Chole RA. Otoconia and otolithic membrane fragments within the posterior semicircular canal in benign paroxysmal positional vertigo[J]. *Laryngoscope*, 2017, 127: 709-714.
- [19] Zhang X, Qian X, Lu L, et al. Effects of Semont maneuver on benign paroxysmal positional vertigo: a meta-analysis[J]. *Acta Otolaryngol*, 2017, 137: 63-70.
- [20] Murdin L, Hussain K, Schilder AG. Betahistine for symptoms of vertigo[J]. *Cochrane Database Syst Rev*, 2016: CD010696.
- [21] Kunel'skaya NL, Mokrysheva NG, Guseva AL, et al. [Benign paroxysmal positional vertigo: modern concepts of its etiology and pathogenesis][J]. *Vestn Otorinolaringol*, 2017, 82: 75-79.
- [22] West N, Hansen S, Bloch SL, et al. [Benign paroxysmal positional vertigo treatment][J]. *UgeskrLaeger*, 2017, 179, pii: V11160784.
- [23] Edlow JA, Newman-Toker D. Using the Physical Examination to Diagnose Patients with Acute Dizziness and Vertigo[J]. *J Emerg Med*, 2016, 50: 617-628.
- [24] Sahin C, Varim C, Uyanik M, et al. The Usefulness Of Monitoring the Neutrophil To Lymphocyte Ratio In Patients with Peripheral Vertigo[J]. *Georgian Med News*, 2016, 256-257: 52-57.

(本文编辑:唐颖馨)