



单节段脊髓型颈椎病伴下颈椎不稳的影像学表现及预后因素分析

路宽, 丁文元, 杨大龙, 申勇, 张为, 郭旭朝, 杨思东, 王辉

050051 石家庄, 河北医科大学第三医院脊柱外科, 河北省骨科生物力学重点实验室

The imaging features and prognostic factors of mono-segmental cervical spondylotic myelopathy with lower cervical instability

Lu Kuan, Ding Wenyuan, Yang Dalong, Shen Yong, Zhang Wei, Guo Xuzhao, Yang Sidong, Wang Hui

Department of Spinal Surgery, the Third Affiliated Hospital of Hebei Medical University, Hebei Orthopaedics Experiment, Shijiazhuang 050051, China

- 摘要
- 图/表
- 参考文献
- 相关文章

全文: [PDF](#) (1357 KB) [HTML](#) (1 KB) 输出: [BibTeX](#) | [EndNote](#) (RIS) [背景资料](#)

摘要 目的 探讨单节段脊髓型颈椎病伴下颈椎不稳的MRI信号改变及影响预后的相关因素。方法 回顾性分析2005年1月至2008年6月采用前路减压植骨融合内固定术治疗的109例单节段脊髓型颈椎病患者的病例资料, 根据是否存在下颈椎不稳将患者分为不稳定组、稳定组。比较两组T2WI脊髓高信号的等级、发生率及术后6个月日本骨科学会(Japanese Orthopaedic Association, JOA)评分改善率、由于症状反复或出现新的脊髓压迫症状而再次就诊的例数和时间, 记录患者病程和体征, 包括感觉减退或消失、Hoffmann征、Babinski征、腱反射。应用多元线性回归分析术后JOA评分改善率与性别、年龄、术前JOA评分、病程、临床体征数目、脊髓高信号等级的相关性。结果 不稳定组和稳定组患者性别、年龄的差异无统计学意义。(1) 不稳定组T2WI脊髓高信号发生率为74.3%, 稳定组为41.9%, 两组差异有统计学意义。(2) 不稳定组的病程、术前JOA评分、临床体征数目、术后JOA评分改善率、再次就诊时间分别为(26.9±15.1)个月、(10.0±2.5)分、(2.91±0.91)个、55.6%±14.9%、(29.1±6.8)个月; 稳定组分别为(17.0±9.9)个月、(11.2±2.4)分、(2.42±0.83)个、69.0%±18.0%、(57.5±21.9)个月。不稳定组较稳定组的病程长、术前JOA评分低、临床体征数目多、术后JOA评分改善率低、再次就诊时间短, 两组差异均有统计学意义。(3) 术后JOA评分改善率与术前JOA评分、病程和临床体征数目相关。结论 单节段脊髓型颈椎病合并下颈椎不稳时, MRI T₂WI上脊髓高信号的发生率高, 患者病程长且临床体征多, 术后疗效较差。

关键词: 颈椎病 预后 磁共振成像

Abstract: Objective To investigate the associated factors of MRI signal changes and prognosis in mono-segmental cervical spondylotic myelopathy (CSM) accompanied by instability of lower cervical spine. Methods In this retrospective study, data of 109 CSM patients who had undergone anterior cervical disectomy and fusion (ACDF) between January 2005 and June 2008 were analyzed. All patients were divided into unstable group and stable group, according to the stability of lower cervical spine. The two groups were compared in terms of spinal cord high signal on MRI T₂WI and its incidence rate, JOA recovery rate six months after ACDF. The number of returned patients and the time they came back due to repeated symptoms or new symptoms caused by spinal cord compression were recorded. Besides, course of disease and physical signs including sensory hypoesthesia or disappearance, Hoffmann sign, Babinski sign and tendon reflexes were recorded. Multivariate linear regression was applied to analyze the correlation of postoperative JOA recovery rate with gender, age, preoperative JOA score, course of disease, the number of physical signs and high signal level of spinal cord. Results There was no significant difference in gender or age between the two groups. 1) Occurrence rate of high signal in spinal cord was 74.3% in unstable group, which was 41.9% in stable group with significant difference. 2) In unstable group, course of disease, preoperative JOA score, the numbers of physical signs and postoperative JOA recovery rate, and retreatment time were 26.9±15.1 months, 10.0±2.5 points, 2.91±0.91, 55.6%±14.9%, 29.1±6.8 months, respectively, and in stable group, 17.0±9.9 months, 11.2±2.4 points, 2.42±0.83, 69.0%±18.0%, 57.5±21.9 months, respectively. Significantly, the unstable group has longer course of disease, lower preoperative JOA score and postoperative JOA recovery rate, more physical signs, and shorter retreatment time, compared to stable group.

服务

- ▶ 把本文推荐给朋友
- ▶ 加入我的书架
- ▶ 加入引用管理器
- ▶ E-mail Alert
- ▶ RSS

作者相关文章

- ▶ 路宽
- ▶ 丁文元
- ▶ 杨大龙
- ▶ 申勇
- ▶ 张为
- ▶ 郭旭朝
- ▶ 杨思东
- ▶ 王辉

3) Postoperative JOA recovery rate was correlated with preoperative JOA score, course of disease and the number of physical signs. Conclusion Patients suffering from cervical spondylotic myelopathy with lower cervical instability have higher incidence of high signal in spinal cord on MRI T₂WI, longer course of disease, more physical signs, and poorer postoperative recovery rate.

Key words: Cervical spondylosis Prognosis Magnetic resonance imaging

收稿日期: 2013-08-04;

引用本文:

路宽,丁文元,杨大龙等. 单节段脊髓型颈椎病伴下颈椎不稳的影像学表现及预后因素分析[J]. 中华骨科杂志, 2014, 34(3): 273-279.















Lu Kuan,Ding Wenyuan,Yang Dalong et al. The imaging features and prognostic factors of mono-segmental cervical spondylotic myelopathy with lower cervical instability[J]. Chin J Orthop, 2014, 34(3): 273-279.


链接本文:

http://www.chinjorthop.com/Jwk_zhgz/CN/10.3760/cma.j.issn.0253-2352.2014.03.004 或

http://www.chinjorthop.com/Jwk_zhgz/CN/Y2014/V34/I3/273

没有找到本文相关图表信息

- [1] Hayashi H, Okada K, Hamada M, et al. Etiologic factors of myelopathy. A radiographic evaluation of the aging changes in the cervical spine[J]. Clin Orthop Relat Res, 1987(214): 200-209.
- [2] 戴力扬. 颈椎椎间盘退行性改变与颈椎不稳[J]. 中华外科杂志, 1999, 37(3): 180-182.
- [3] Dai LY. Disc degenerative and cervical instability: correlation of magnetic resonance imaging with radiography[J]. Spine (Phila Pa 1976), 1998, 23(16): 1734-1738. 
- [4] 谢宁, 贾连顺, 李家顺, 等. 颈椎不稳对脊髓型颈椎病早期发病的影响[J]. 第二军医大学学报, 2000, 21(7): 10-11.
- [5] Matz PG, Anderson PA, Groff MW, et al. Cervical laminoplasty for the treatment cervical degenerative myelopathy[J]. J Neurosurg Spine, 2009, 11(2): 157-169. 
- [6] 孙先泽, 吴战勇, 孙建国, 等. 脊髓腹背受压合并颈椎不稳定脊髓型颈椎病的手术选择[J]. 骨与关节损伤杂志, 2003, 18(6): 375-376. 
- [7] 李家顺, 石志才, 贾连顺, 等. 退行性下颈椎不稳症的临床特征与放射学测量[J]. 中国脊柱脊髓杂志, 1998, 8(5): 255-258.
- [8] Yukawa Y, Kato F, Yoshihara H, et al. MR T2 image classification in cervical compression myelopathy: predictor of surgical outcomes[J]. Spine (Phila Pa 1976), 2007, 32(15): 1675-1679. 
- [9] Yagi M, Ninomiya K, Kihara M, et al. Long-term surgical outcome and risk factors in patients with cervical myelopathy and a change in signal intensity of intramedullary spinal cord on magnetic resonance imaging[J]. J Neurosurg Spine, 2010, 12(1): 59-65. 
- [10] Wanda E, Ohmura M, Yonenobu K. Intramedullary changes the spinal cord in cervical spondylotic myelopathy[J]. Spine (Phila Pa 1976), 1995, 20(20): 2226-2232. 
- [11] Morio Y, Yamamoto K, Kuranobu K, et al. Does increased signal intensity of the spinal cord on MR images due to cervical myelopathy predict prognosis?[J]. Arch Orthop Trauma Surg, 1994, 113(5): 254-259. 
- [12] Matsumoto M, Toyama Y, Ishikawa M, et al. Increased signal intensity of the spinal cord on magnetic resonance images in cervical compressive myelopathy. Does it predict the outcome of conservative treatment?[J]. Spine (Phila Pa 1976), 2000, 25(6): 677-682. 
- [13] Yukawa Y, Kato F, Ito K, et al. Postoperative changes in spinal cord signal intensity in patients with cervical compression myelopathy: comparison between preoperative and postoperative magnetic resonance images[J]. J Neurosurg Spine, 2008, 8(6): 524-528. 
- [14] Hillibrand AS, Fye MA, Emery SE, et al. Impact of smoking on the outcome of anterior cervical arthrodesis with interbody or strut-grafting[J]. J Bone Joint Surg Am, 2001, 83(5): 668-673. 
- [15] Emery SE, Bohlman HH, Bolesta MJ, et al. Anterior cervical decompression and arthrodesis for the treatment of cervical spondylotic myelopathy[J]. J Bone Joint Surg Am, 1998, 80(7): 941-951. 
- [16] Eck JC, Humphrey SC, Lim TH, et al. Biomechanical study on the effect of cervical spine fusion on adjacent level intradiscal pressure and segmental motion[J]. Spine (Phila Pa 1976), 2002, 27(22): 2431-2434. 
- [17] Saal JS. The role of inflammation in lumbar pain[J]. Spine (Phila Pa 1976), 1995, 20(16): 1821-1827. 
- [18] Fukui K, Kataoka O, Sho T, et al. Pathomechanism, pathogenesis and results of treatment in cervical spondilotic myelopathy caused by dynamic canal stenosis[J]. Spine (Phila Pa 1976), 1990, 15(11): 1148-1152. 
- [19] Yu ZS, Liu ZJ, Dang GT. Effect of cervical instability in sympathetic cervical spondylosis[J]. Zhonghua Wai Ke Za Zhi, 2002, 40(12): 881-885.
- [20] Kawakami M, Tamaki T, Ando M, et al. Preoperative instability does not influence the clinical outcome in patients with cervical spondylotic myelopathy treated with expansive laminoplasty[J]. J Spinal Disord Tech, 2002, 15(4): 277-283. 
- [21] Katsuura A, Hukuda S, Saruhasi Y, et al. Kyphotic malalignment after anterior fusion is one of the factors promoting the degenerative process

- [22] Lizuka H, Nakagawa Y, Shimegi A, et al. Clinical results after cervical laminoplasty: Differences due to the duration of wearing a cervical collar [J]. J Spinal Disord Tech, 2005, 18(6): 489-491. 
- [1] 杨伟铭,宁飞鹏,林定坤. 腰椎间盘突出症发病时的功能状态与影像学区域定位的关系[J]. 中华骨科杂志, 2014, 34(3): 280-284.
- [2] 田伟,安岩,李加宁,刘亚军,吴昕峰,吕艳伟,曾成. 斜坡枢椎角的正常值及其与延髓脊髓角的相关性研究[J]. , 2014, 34(3): 306-310.
- [3] 江东,苗羽,敖英芳,郑卓肇,余家阔. 不同MRI序列对半月板缝合术后愈合的诊断价值[J]. 中华骨科杂志, 2013, 33(9): 923-927.
- [4] 王淑丽,马信龙,徐卫国,潘涛,张晓光,崔壮. 外踝骨折后三角韧带损伤程度的X线与MRI比较研究[J]. 中华骨科杂志, 2013, 33(8): 834-841.
- [5] 王植,孟祥虹,锁咏梅,王林森,赵力. 膝关节骨关节炎内侧半月板突出的临床意义[J]. 中华骨科杂志, 2013, 33(7): 755-761.
- [6] 付喆,杨建平,曾裴,张中礼. 发育性髋脱位早期保守治疗后残余半脱位的长期随访[J]. 中华骨科杂志, 2013, 33(5): 473-479.
- [7] 王洪立,杨升达,姜建元,吕飞舟,马晓生,夏新雷,王立勋. 基于磁共振神经显像技术解剖学研究的TLIF操作安全性分析[J]. 中华骨科杂志, 2013, 33(2): 165-170.
- [8] 陈意磊,周志杰,范顺武,赵凤东,方向前. 许莫氏结节在腰腿痛患者中的分布特点及与腰椎间盘突出退变的相关性分析[J]. , 2013, 33(11): 1078-1083.
- [9] 万军,张海森,张宇,贺强,于斌,夏英鹏,张学利. 比较单开门颈椎椎板成形术中锚定法与钛板固定对预防椎板关闭的效果[J]. 中华骨科杂志, 2013, 33(10): 977-983.
- [10] 钱宇,何磊,赵晓峰,张军. 颈椎前路减压植骨融合术后的脊髓前移[J]. 中华骨科杂志, 2013, 33(10): 997-1003.
- [11] 金翔,吕飞舟,陈文钧,夏新雷,王立勋,郑超君,姜建元. 平山病、肌萎缩性侧索硬化及远侧型肌萎缩型颈椎病神经电生理特点[J]. 中华骨科杂志, 2013, 33(10): 1004-1011.
- [12] 田伟,吕艳伟,刘亚军,肖斌,韩骁. 北京市18岁以上居民颈椎病现状调查研究[J]. 中华骨科杂志, 2012, 32(8): 707-713.
- [13] 张颖,王新伟,陈华江,杨立利,徐盛明,吕碧涛,张竞,袁文. 单纯前路手术治疗“钳夹型”颈椎病的疗效[J]. 中华骨科杂志, 2012, 32(8): 714-720.
- [14] 刘好源,黄哲元,陈峰嵘,黄建明,龚灏,徐天睿,简国坚,王博文,陈瑞松,易碧龙. 跳跃性椎体次全切除治疗多节段脊髓型颈椎病及后纵韧带骨化症[J]. 中华骨科杂志, 2012, 32(8): 721-725.
- [15] 张文海,卢艳东,王敬博,张克刚,郑玉晨,姚辉,李宝和,王裕民. 内、外侧双切口治疗HawkinsIII型距骨颈骨折[J]. 中华骨科杂志, 2012, 32(8): 745-750.

友情链接



版权所有 © 2012 中华骨科杂志

地址:天津市河西区解放南路406号天津医院内 邮编:300211

电话: 86-22-28334734 86-22-28278929 传真: 86-22-28241184 E-mail: gktougao@126.com

本系统由北京玛格泰克科技发展有限公司设计开发