



## 合并脊髓纵裂的重度僵硬性先天性脊柱侧凸的一期后路脊椎截骨术

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## Application of one stage spinal osteotomy for congenital severe scoliosis associated with split spinal cord malformation

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**摘要** 目的 探讨一期后路脊椎截骨术治疗合并脊髓纵裂的重度僵硬性先天性脊柱侧凸的安全性和有效性。方法 回顾性分析2007年9月至2010年11月行一期后路脊椎截骨术治疗的合并脊髓纵裂的重度僵硬性先天性脊柱侧凸患者24例,男11例,女13例;年龄12~28岁,平均(15.6±3.3)岁。合并I型脊髓纵裂11例、II型脊髓纵裂13例。术前冠状面Cobb角80°~135°,平均93.4°±13.9°;柔韧性4.9%~28.3%,平均13.9%±7.1%。对合并I型脊髓纵裂患者,截骨矫形前先切除骨性纵隔;对合并II型脊髓纵裂患者直接行截骨矫形术,脊髓纵裂不予处理。结果 全部病例随访24~68个月,平均(44.5±17.4)个月。手术时间395~895 min,平均(554.7±118.4) min;术中失血量1 000~9 600 ml,平均(3 741.7±2 260.0) ml;术中输血量800~8 850 ml,平均(3 711.3±2 059.4) ml。术后矫正率47.2%~96.7%,平均65.9%±11.3%;末次随访矫正率40.7%~94.5%,平均62.7%±12.0%;矫正率丢失0.3%~8.9%,平均3.0%±2.4%。6例(25.0%, 6/24)出现术后并发症:术后即刻暂时性神经损害加重3例(12.5%, 3/24)、脑脊液漏2例(8.3%, 2/24)、胸膜破裂1例(4.2%, 1/24),无永久性神经损害并发症。3例术后即刻出现神经并发症患者于出院后1周、3个月、6个月恢复至术前水平或较术前改善。结论 一期后路脊椎截骨术治疗合并脊髓纵裂的重度僵硬性先天性脊柱侧凸安全有效,一期手术并未增加神经并发症的风险。但手术时间长,术中出血量较大。

关键词: 脊柱侧凸 畸形 多发性 截骨术

**Abstract:** Objective To analyze the safety and efficacy of one stage spinal osteotomy for patients who had progressive severe and rigid congenital scoliosis (CS) associated with split spinal cord malformation (SSCM). Methods A total of 24 patients underwent one stage spinal osteotomies for severe and rigid CS associated with SSCM from September 2007 to November 2010 in our hospital. 11 of these patients were males and 13 were females with an average age of 15.6±3.3 years (range, 12-28 years). There were 11 patients with Type I SSCM and 13 patients with Type II SSCM. The mean major coronal curve ranged from 80° to 135° (average, 93.4° ±13.9°) and the coronal flexibility ranged from 4.9% to 28.3% (average, 13.9%±7.1%). Before the corrective stage of surgery, bony spurs were resected in patients of Type I SSCM, while nothing was done to the Type II SSCM. Then, posterior osteotomy and fusion was performed to correct the spinal deformity. Results All patients were followed up for a minimum of 24 months after initial surgical treatment with an average follow-up of 44.5±17.4 months (range, 24 - 68 months). The average operation time was 554.7±118.4 min (range, 395-895 min) and the average blood loss was 3 741.7±2 260.0 ml (range, 1 000-9 600 ml). The average amount of blood transfusion was 3 711.3±2 059.4 ml (range, 800-8 850 ml). The immediate postoperative correction rate was 47.2% to 96.7% (average, 65.9%±11.3%). At the final follow-up, the final correction rate was 62.7%±12.0% (range, 40.7%-94.5%), with a correction loss of 3.0%±2.4% (range, 0.3%-8.9%). The overall major surgical complications rate was 25.0% (6/24), including neurological deterioration in 3 patients (12.5%, 3/24), cerebrospinal fluid leakage in 2 patients (8.3%, 2/24) and pleural rupture in 1 patients (4.2%, 1/24). The neurological deterioration recovered to the preoperative neurological status at 1 week, 3 months and 6 months postoperatively and improved at the final follow-up, compared with the preoperative status. Conclusion One stage spinal osteotomy is safe and effective for severe and

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rigid CS with SSCM without increasing the complication rate. However, it results in longer operative time and more blood loss.

Key words: Scoliosis Abnormalities, multiple Osteotomy

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