

论著

重度特发性脊柱侧凸胸椎椎弓根螺钉徒手置入精确性的CT评价

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摘要

目的: 应用CT分析重度特发性脊柱侧凸胸椎椎弓根徒手螺钉置入的精确性。方法: 选择1996年6月至2006年12月有完整术后CT资料的重度特发性脊柱侧凸患者20例。术前主胸弯冠状面Cobb角 $82^{\circ} \sim 142^{\circ}$ ($96.3^{\circ} \pm 14.3^{\circ}$), 主弯后凸角 $66.2^{\circ} \pm 12.4^{\circ}$ 。术中采用徒手直视下胸椎椎弓根螺钉置入, 术后根据轴位CT扫描评价螺钉置入椎弓根的精确性。结果: 共置入174枚胸椎椎弓根螺钉, 术后CT扫描157枚螺钉(90.2%)完全在椎弓根皮质骨内, 9例17枚螺钉(9.8%)发生错置: 11枚螺钉(6.3%)偏外侧, 其中9枚穿破皮质 ≤ 2 mm, 2枚穿破皮质在2~4 mm; 6枚螺钉(3.5%)偏内侧, 其中3枚穿破皮质 ≤ 2 mm, 3枚穿破皮质在2~4 mm。凸侧共置入椎弓根螺钉94枚, 其中错置6枚, 准确率为93.6%, 凹侧共置入80枚, 其中错置11枚, 准确率为86.3%, 凹侧与凸侧螺钉置入准确率比较无统计学差异($P > 0.05$)。所有病例未发生神经并发症。结论: 应用徒手法行重度特发性脊柱侧凸胸椎椎弓根螺钉置入精确度较高, 但有一定的误置率。

关键词 [脊柱侧凸](#); [椎弓根螺钉](#); [CT](#)

分类号

Accuracy of free-hand thoracic pedicle screw placement in severe idiopathic scoliosis via CT scan

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Abstract

Objective To analyze the accuracy of free-hand thoracic pedicle screw placement in severe idiopathic scoliosis via CT scan. Methods Twenty patients with complete CT data were chosen out of 58 patients of severe idiopathic scoliosis from June 1996 to December 2006. The Cobb angle of the main thoracic curve was from 82° to 142° ($96.3^{\circ} \pm 14.3^{\circ}$). The kyphotic angle in the main curve was $66.2^{\circ} \pm 12.4^{\circ}$. The placement of thoracic pedicle screw was completed free-hand edly, and the accuracy of screws placement was evaluated with CT thin-slice scan postoperatively. Results Altogether 174 thoracic pedicle screws were inserted, 157 (90.2%) of which were fully contained within the cortical boundaries of the pedicle. The other 17 screws (9.8%) were misplaced in 9 patients: 11 screws (6.8%) were lateral, 9 of which had a breach ≤ 2 mm, and the other 2 were between 2 and 4 mm; 6 screws (3.5%) were medial, 3 screws had a breach ≤ 2 mm, and the other 3 were between 2 and 4 mm. Of the total 94 thoracic pedicle screws inserted on the convex side, 6 were misplaced, with the accuracy rate of 96.3%. Eighty screws were inserted on the concave side, 11 of which screws were misplaced, with the accuracy rate of 86.3%. There was no statistical difference between the convex and concave side as to the accuracy rate of screw implantation ($P > 0.05$). There was no neural complication in all patients. Conclusion It is fairly accurate place thoracic pedicle screw in severe idiopathic scoliosis free-handedly, with some misplacements.

Key words [scoliosis](#) [pedicle screw](#) [CT scan](#)

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