Surgical outcomes of posterior lumbar interbody fusion in elderly patients. Surgical technique

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BACKGROUND: We are aware of no reports on the surgical results of posterior lumbar interbody fusion in elderly patients. The purpose of this study was to investigate the clinical and radiographic results of posterior lumbar interbody fusion with pedicle screws in patients older than seventy years of age and compare them with results in younger patients. We also investigated the association between the clinical and radiographic results. METHODS: The study included 101 patients who had been followed for at least three years after posterior lumbar interbody fusion with pedicle screws for the treatment of L4-L5 degenerative spondylolisthesis. The average follow-up period was fifty months. The patients were divided into two groups according to their age at the time of the operation: Group 1 included thirty-one patients who were seventy years of age or older (average age, seventy-four years) at the time of the operation, and Group 2 included seventy patients who were less than seventy years old (average age, fifty-nine years). Preoperative and postoperative status (according to the Japanese Orthopaedic Association scoring system) and postoperative complications were compared between the two groups. Postoperative radiographic features, including fusion status and segmental lordosis, were also examined. RESULTS: No significant differences in preoperative and postoperative scores were observed between the two age groups, with the numbers available. General complications were found in Group 1. However, the prevalence of adjacent segment degeneration in Group 1 was lower than that in Group 2. The radiographic results revealed no significant difference in the prevalence of segmental lordosis, with the numbers available. There was no nonunion in either group. Although the prevalence of either collapsed union or delayed union in Group 1 was significantly higher than that in Group 2 ($p = 0.034$), the fusion results such as union in situ, collapsed union, and delayed union did not appear to affect the postoperative clinical results in this study.

CONCLUSIONS: No obvious differences in the clinical results were observed between the age groups with the numbers available. Postoperative adjacent segment degeneration was less frequent and collapsed union and delayed union were more common in the elderly group. The fusion results did not appear to affect the postoperative clinical results in this study.

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