Transpedicular closing wedge osteotomy in the treatment of thoracic and lumbar kyphotic deformity with different etiologies

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Transpedicular closing wedge osteotomy (TCWO) has become popular in correcting thoracic and lumbar kyphotic deformity (TKD). Our study aims to evaluate the efficacy of TCWO in treating TKD of different etiologies. TCWO were performed on 25 patients with thoracic and lumbar kyphosis, of whom 10 had ankylosing spondylitis, 10 had post-traumatic thoracolumbar fractures, and 5 had tuberculosis. Mean follow up period was 24 months. Pre- and post-operative kyphotic Cobb angles and the horizontal distance between C7 and S1 in the lateral view were measured. Back pain and disability were assessed by Visual Analog Score (VAS) and Oswestry Disability Index (ODI). Postoperative complications were also recorded. Kyphotic deformity was successfully corrected and 100% osteotomic site fusion was obtained in all cases. Average operative duration was 210 min and blood loss was 1570 ml. Average correction angels were 39 degrees in ankylosing spondylitis, 37 degrees in post-traumatic, and 33 degrees in tuberculosis. The horizontal distance between C7 and S1 was 91.3 mm before the operation and 12.3 mm after the operation. Pre- and post-operative mean VAS of back pain in all cases was 7.8 and 3.0 respectively. Pre- and post-operative mean ODI was 60.5 and 30.2 receptively. Two complications were registered in two patients. Pedicle subtraction osteotomy is an effective and safe surgical method to correct thoracic and lumbar kyphosis of different etiologies.

Biography

Qingyi He has been an Associate Professor in the Department of Orthopaedic Surgery at Southwest Hospital since 2006, which is one of the most famous teaching hospitals in China. Dr. He earned a Medical Degree at the Chongqing University of Medical Science followed by an internship and orthopaedic residency at the same University. His spine fellowship was at Third Military Medical University Hospital from 2002 to 2005. Dr. He is certified by the Chinese Board of Orthopaedic Surgery.

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