

CASE STUDIES

EARLY GROWTH IN POSTEROLATERAL SPINE FUSION WITH THE USE OF DEMINERALIZED BONE MATRIX (DBM)

History

A 70-year-old woman presented with moderate lumbar scoliosis, a history of persistent severe low back pain and lumbar radiculopathy. MRI demonstrated L4-L5 grade I spondylolisthesis, prominent bony disc osteophyte complex at L3-L4-L5, and significant degenerative facet changes resulting in severe bilateral foraminal stenosis and some central canal stenosis.

Treatment

After failure of conservative treatments, the patient underwent bilateral L3-L4-L5 posterolateral fusion, supplemented with L3-L4-L5 posterior instrumentation with pedicle screws. A posterior lumbar interbody fusion was impracticable due to significantly narrow disc spaces. The posterolateral fusion was performed using a total of 25cc of DBM granules (150 μ m to 800 μ m) soaked in autologous bone marrow aspirated from the patient's iliac crest.

Postoperative Results and Outcome

The postoperative course was uneventful. Neither generalized nor local adverse reactions were observed postoperatively. Follow-up radiographs were obtained at six weeks and five and a half months after the surgery. The six week AP views already showed clear evidence of bone growth in the right L3-L5 posterior lateral region (Fig. 1). At five and a half months, X-rays demonstrate an increase of fusion bone mass in the right posterior lateral region (Fig. 2). Further follow-up evaluation has been planned.

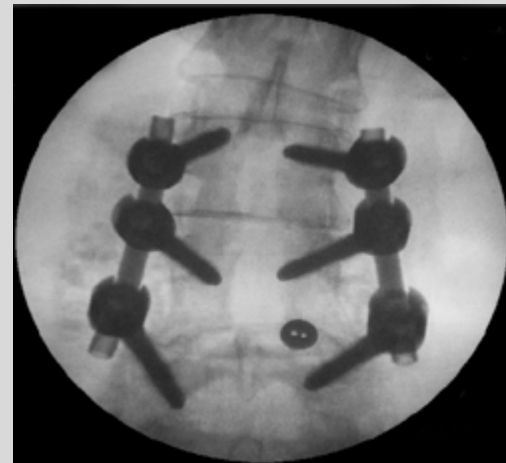


Figure 1. 6 Weeks Postoperative: bone growth is already visible in the right posterior lateral region.

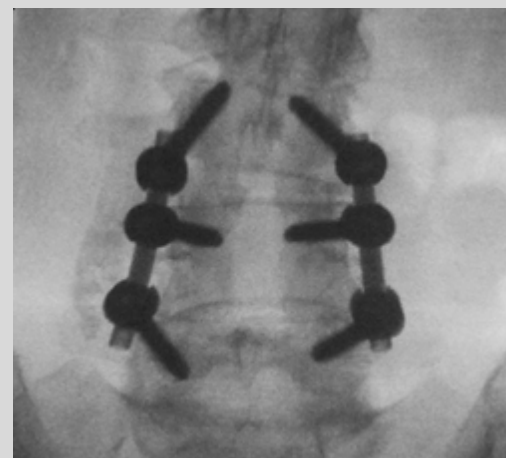


Figure 2. 5.5 Months Postoperative: AP views demonstrate an increase of fusion mass of the right posterior lateral region.