Session IV

Postoperative Junctional Failure after Fusion Surgery

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Proximal junctional kyphosis (PJK) and proximal junctional failure (PJF) are a common complication following long instrumented spinal fusion surgery. Varied pathogenic mechanisms may influence the development and progression of PJK or PJF. The major risk factors include older age, large preoperative sagittal parameters, use of pedicle screws, greater curvature correction, posterior and anterior-posterior spinal fusion, fusion to the sacrum, low bone mineral density, and high body mass index. Patient presentation varies from purely asymptomatic radiographic increase of proximal junctional angle to intractable pain with/without progressive myelopathy. The initial management of PJK and PJF includes bracing and optimization of bone healing biology through the use of anabolic agents. If symptoms persist or progress, surgical stabilization and decompression may be required. Prevention of PJK and PJF include parathyroid hormone therapy, hybrid instrumentation, preventive vertebroplasty at UIV or UIV+1, soft tissue protections, adequate selection of the UIV. It is important to understand of PJK and PJF and to perform appropriate treatment.