



Case Review:

Progressive Scheurmann's Kyphosis

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Patient History

- 17 year old male, water polo player.
- Diagnosed with Scheuermann's Kyphosis, well documented with X-rays and MRI.
- Patient is neurologically intact.
- He was felt to have a mixed mesenchymal or connective tissue disease but undiagnosed and genetically untyped. The patient has no other comorbidities or other problems related to connective tissue disorders.
- Complains of severe neck pain and low back pain which is not being treated adequately with anti-inflammatory medicines.

Pre-op X-rays



Hyperextension posterior bending revealed a fixed rigid saggital plane deformity necessitating multiple level spinal osteotomy for shortening and manipulation. This was in lieu of anterior release.

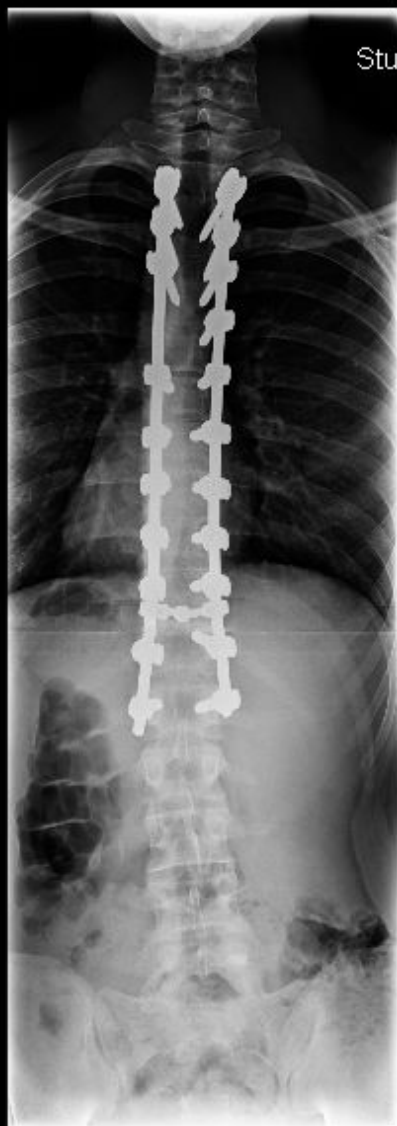
Indications for Surgery

- A 75° progressive Scheuermann's kyphosis, thoracic spine.
- Significant thoracic pain with compensatory lordotic neck and low back pain
- Failed conservative therapy.
- Possible mixed mesenchymal connective tissue disorder adding to morbidity of progressive kyphosis.
- Compensatory cervical lordosis produces increased facet pressure and neuroforaminal stenosis – the likely cause of neck problems in patients with thoracic kyphosis.

Surgical Strategy

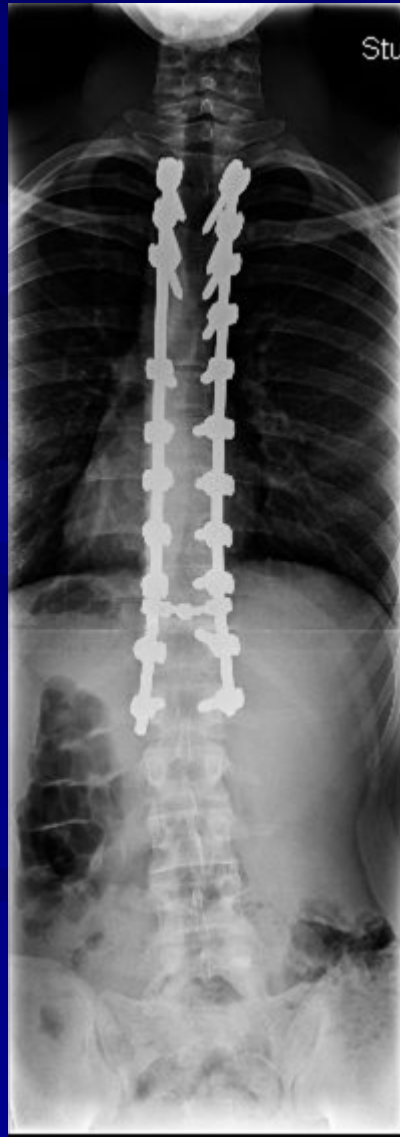
- Segmental spinal instrumentation for correction of progressive Scheuermann's kyphosis, thoracic 3 to lumbar 1 using CD Legacy 1/4 inch stainless steel rod-screw construct.
- Multiple level spinal osteotomy Smith-Peterson/Ponte with radical facetectomy bilaterally, T4-5, 5-6, 6-7, 7-8, 8-9, 9-10 and 11-12, a 7-level osteotomy for posterior release of rigid fixed Scheuermann's' kyphosis, all under the microscope and loupes.
- Posterior spinal fusion thoracic 3 to lumbar 1 using locally harvested autogenous bone and rhBMP.
- Subtotal laminectomy T4 to T12 for mobilization of ligamentum flavum and for posterior spinal shortening thoracic spine, 7 level.
- Intraoperative SSEP and motor evoked potential interpretation.
- Intraoperative fluoroscopic interpretation and control.

Post-Op Films



At the time of operation, a rigid Scheuermann's kyphosis was found. This necessitated multiple level osteotomy for mobilization, which was ultimately achieved to bring the patient back into sagittal balance and normal thoracic alignment.

Pre-Op/Post-op Comparison



Pre-Op/Post-op Comparison



X-rays look good with normal alignment and excellent cosmetic outcome.

At six months post-op the patient was exercising, including weight lifting, swimming, and cardio.