Posterior cervical fusion may lessen spinal cord compression in patients with rheumatoid arthritis

Patients with rheumatoid arthritis may develop inflammation of the joints in the spine, just as they develop inflammation of joints in their hands, feet, and others. The joint between the first cervical vertebra (C1) and the second cervical vertebrae (C2) is most commonly affected. This joint is very important for head rotation, and when it becomes inflamed due to rheumatoid arthritis, the joint increases in size compressing the spinal cord (which travels through the spinal canal). Spinal cord compression in turn may lead to hand or leg weakness, difficulty with walking, difficulty with fine motor tasks (such as handwriting, opening doorknobs or jars, buttoning a shirt, and others), or urinary problems such as urinary retention.

Posterior cervical fusion involves placing screws in the cervical spine, in an attempt to decrease motion between two vertebrae. In this study, we reviewed 30 cases of patients with rheumatoid arthritis operated on at Johns Hopkins, all of whom had severe spinal cord compression secondary to joint growth and soft tissue buildup in the spine. After stabilizing their spine with screws and decreasing movement between the C1 and C2 vertebrae, it was found that the joint decreased in size, and thus the spinal cord compression also lessened.

It is thought that abnormal movement between C1 and C2 caused by rheumatoid arthritis leads to joint inflammation and soft tissue growth, which may explain why these findings partially reversed in most patients after stabilizing the vertebrae. We found that joint size decreased on average 44% over 8 months, and most patients improved clinically (mainly in their walking). After surgery, six out of 30 patients required revision surgery due to instrumentation failure (4 cases) and non-union in two cases.

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Publication

Regression of an atlantoaxial rheumatoid pannus following posterior instrumented fusion.
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