Dynamic Chiropractic

Careful When Adjusting Patients with Rheumatoid Arthritis

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Rheumatoid arthritis (RA) is a highly inflammatory disease that frequently involves the cervical spine, particularly the occipital-atlanto-axial region. With patients that have RA, careful attention to the upper cervical region should be noted. This region can be subluxated due to ligamentous laxity or rupture of ligaments from the inflammatory process of the disease. Adjusting this region can cause serious complications and injury.

You may recall RA causes inflammation of the synovial of the synovial joints and pannus formation which causes osseous erosions, destruction of cartilage and laxity of ligaments or even ligamentous rupture. There are six synovial joints in the occipito-atlanto-axial region: occipito-atlantal joint; atlanto-axial joint; joint between the odontoid process and the anterior arch of the atlas; and the joint between the odontoid process and the transverse ligament. Any or all of these joints can be affected by the inflammatory process of RA.

The most common radiographic change in the cervical spine is widening of the atlanto-odontal interspace, which should not exceed 3mm in measurement in the adult. About 35 percent of patients with RA of the cervical spine will demonstrate an increase in this measurement resulting in an anterior atlanto-axial subluxation due to laxity or rupture of the transverse ligament. When severe, it may be associated with cervical myelopathy and compression of the vertebral artery. Erosions of the odontoid process can, however, give the appearance of a subluxation, which may not indicate abnormalities of the transverse ligament. It is also possible to observe a decrease in the atlanto-odontal interspace, due again to erosions of the odontoid process resulting in "a loose fit" in the confines of the anterior atlas and transverse ligament, accounting for atlanto-odontoid instability. Lateral subluxation of C1 on C2 is associated with marked atlanto-odontoid instability.

Occipitocervical abnormalities can occur in about 20 percent of cases with longstanding RA of the cervical spine. Probably the most serious complication of RA involving the cervical spine is cranial settling. This occurs when pannus from the inflamed synovial joints leads to erosion and collapse of the lateral masses of C1 and to a lesser extent erosion of the occipital condyles and superior articular facets of C2, allowing the skull to literally settle at a lower level on the cervical spine. The diagnosis of cranial settling can generally be established with conventional radiography by simply measuring McGregor's line. If this measurement is positive (less than 30mm) and if the patient demonstrates signs of cord compression, a CT scan of the occipitocervical region is recommended to evaluate the extent of collapse and articulations involved.

The most common symptom of cranial settling is occipital pain with radiation toward the skull vertex. Neurologic symptoms such as paresthesias, paresis or micturition disturbances occur in 30 percent of patients with cranial settling due to RA.

Cranial settling occurs in only five percent of patients with RA, but some form of C1-C2 subluxation occurs in 45-85 percent of patients with RA of the cervical spine. We chiropractors should be acutely aware of the specific complications of patients with RA.

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