

Osteoarthritis of the Atlanto-Axial Joint

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Description

Osteoarthritis of the atlanto-axial joint is unusual and will involve the lateral facets of the atlanto-odontoid joint. Few cases of a unilateral erosive Osteoarthritis of the atlanto-axial joint are reportable and number of that was related to Calcium Pyrophosphate Dihydrate (CPDD), crystal deposition illness or chondrocalcinosis. It is recommended that this might represent a severe harmful arthropathy of the atlanto-axial facet joints.

The importance of this article lies within the incontrovertible fact that it deals with infrequent complication in patients with autoimmune disorder, as a result, most of the fractures that occur on the odontoid process, non-traumatic in origin. Dislocations of the atlantoaxial joint have incidence that goes from nineteen to seventy percent. Normally, the gap between the odontoid process, in its anterior border, and therefore the posterior border of the anterior arch of the atlas is 2.5 mm and remains constant in flexion and extension. Once the transversal ligament is lax, this gap will increase in size [1]. In autoimmune disorder, the anterior part of the odontoid process will be worn in 14%–35% of cases and is sometimes associated with dislocation.

The atlanto-axial joint could be a joint between the primary and secondary cervical vertebrae; the Atlas and Axis. It is a joint created from 3 secretion joints and constitutes the foremost mobile articulation of the spine. The center (or median) joint is classed as a pivot joint and therefore the lateral joints are plane articulations.

The atlantoaxial articular capsules are thick and loose, and connect the margins of the lateral lots of the atlas with those of the posterior articular surfaces of the axis. Each is reinforced at its posterior and medial half by an adjunct ligament, which is connected below to the body of the axis close to the bottom of the odontoid process, and higher than to the lateral mass of the atlas

close to the transversal ligament [2].

The ligaments connecting these bones are as follows:

- Articular capsules
- Anterior atlantoaxial ligament
- Posterior atlantoaxial ligament
- Transverse ligament of the atlas
- Alar ligaments
- Apical ligament
- Tectorial membrane

The atlantoaxial joint could be a complicated joint between the atlas (C1) and therefore the axis (C2). It is composed of 3 secretion joints, 1 median atlantoaxial joint and 2 lateral atlantoaxial joints. The left and right lateral atlantoaxial joints are the articulations between the inferior articular surface of the lateral mass of atlas (C1) and therefore the superior articular surface of the lateral mass of axis (C2). Since these are synovial joints, their articular surfaces are coated with hyaline cartilage [3].

Osteoarthritis might occur at the atlanto-axial joint. This involves classic pathophysiology, like loss of articular cartilage, osteophytes visible with radiography, and bone thickening with a narrow joint area. Conservative management is sometimes effective, involving analgesics. Surgery is also utilized in severe cases, and will have better outcomes.

Atlanto-Axial Subluxation (AAS) happens with marked frequency in patients with disorders of the higher cervical spine due to Rheumatoid arthritis. There was an evidence that twenty one patients who had myelopathy caused by irreducible atlanto-axial instability and were treated cautiously, all became bedridden once in three years the onset of myelopathy, and therefore the survival rate was zero within the first eight years. Atlanto-axial Transarticular Screw Fixation (TSF) is that the common treatment for such instability. The fusion mass between the C1 posterior arch and C2 lamina should be examined to work out whether or not fusion has been achieved after atlanto-axial arthrodesis [4].

References

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