

The Risk and Consequences of Vertebral Fracture in Patients with Ankylosing Spondylitis: A Population-based Data Linkage Study

Milica Ognjenovic, Warren D. Raymond, Charles A. Inderjeeth, Helen I. Keen, David B. Preen, and Johannes C. Nossent

The Journal of Rheumatology November; <https://doi.org/10.3899/jrheum.190675>

Presentation Transcript

Slide #1:

Hello, my name is Milica Ognjenovic, the first author of the article "The Risk and Consequences of Vertebral Fracture in Patients with Ankylosing Spondylitis: A Population-based Data Linkage Study".

Ankylosing spondylitis (AS) is a relatively rare type of arthritis characterized by chronic spinal inflammation contributing to bone loss and paravertebral calcification with syndesmophyte formation, which in turn leads to spinal rigidity and reduced bone density making patients susceptible to vertebral fracture.

Therefore, we investigated patients with AS compared to controls, their long-term prevalence, incidence, and risk factors of vertebral fractures.

Methods:

This study is based on administrative health data, including International Classification of Diseases, 9th revision (ICD-9) and ICD-10 codes covering all private and public hospitals in the state of Western Australia in Australia from 1980 to 2015. Therefore, AS patients were identified and defined as having at least one appropriate ICD code. The controls were defined as those who do not have any rheumatic disease and hence had no relevant ICD code. A total 2321 AS patients were matched to 22,976 controls based on date of birth, sex, Indigenous status, and year of first hospital contact.

Slide #2:

Overall, AS participants had a greater prevalence of vertebral fractures at 9.3% compared to controls with 2.5%.

AS patients showed an average 2.5-fold increased risk of developing a vertebral fracture compared to controls after adjusting for age, sex, and osteoporosis. Interestingly, the extraarticular manifestations of AS were not risk factors of vertebral fracture. Although the risk of vertebral fracture tremendously decreased after the 80s decade; however, this risk was not altered in the 2000s era whereby following the introduction of tumor necrosis factor inhibitor treatment.

Slide #3:

AS participants had a greater incidence of developing new vertebral fracture at 6.8% compared to 1.9% in controls, resulting in a 3.94-fold risk. Specifically, AS patients were more likely to fracture the cervical section of the spine, from C3 to C7. They were also 4.6 times more likely to have a recurrent vertebral fracture compared to controls.

Slide #4:

Overall, there we found no increased for mortality among AS patients, despite observing AS patients developing their first vertebral fracture a median 5 years earlier at 71 years of age compared to controls.

Slide #5:

Thank you for taking appreciation into our study and please do check out our full article at *The Journal of Rheumatology* with the DOI referenced below.