Background: Axial spondyloarthritis (axSpA) is a chronic inflammatory disease predominantly involving the axial skeleton and sacroiliac joints. Although the exact aetiology remains largely unknown, there is thought to be an immune-driven element. Vitamin D deficiency has been associated with a number of autoimmune diseases and is thought to play an important role in modulating the immune system. Low vitamin D levels may contribute to the development and progression of axSpA.1

Objectives: To study the possible associations between low vitamin D and disease activity in axSpA.

Methods: A systematic literature search using Medline, Embase and Cochrane was performed using MESH search terms “ankylosing spondylitis”, “axial spondyloarthropathy” and “vitamin D”. Articles examining disease activity measured by BASDAI, ASDAS-CRP, ESR and CRP identified through title/abstract screening, were included in the study, with relevant information extracted.

Results: Out of 495 articles identified from the initial search, 19 observational studies which were mostly (89%) cross-sectional studies were identified. There was considerable heterogeneity between studies, including in the definition of vitamin D deficiency, latitude where study took place and seasonal variation. Vitamin D levels were often lower in patients with axSpA compared to controls. Seventeen studies found no association with vitamin D deficiency and disease activity. The exceptions included one study which measured serum vitamin D receptor levels as opposed to serum 25 (OH)D or 1,25 (OH)2 D concentrations, and another study whose recruitment occurred over four years and therefore seasonal variation may conflict results. Patients taking NSAIDs or anti-TNF had no difference in vitamin D levels.

Conclusion: Vitamin D deficiency is more prevalent in axSpA but does not seem to associate with increased disease activity. Longitudinal studies are required to better define these links.

References:

Disclosure of Interests: None declared
DOI: 10.1136/annrheumdis-2020-eular.4684