Intestinal Permeability in Spondyloarthritis: A Systematic Review of the Literature

S. Hequet1, P. Totosno², H. Martino², C. Prati², D. Wendling¹, C. Demougeot², F. Verhoeven¹. ¹Centre hospitalier régional universitaire de Besançon, Rheumatology, Besançon, France; ²EA4267 PEPITE LAB, Physiology, Besançon, France

Background: Growing evidence argue for a role of the gut in the pathophysiology of various chronic inflammatory diseases such as spondyloarthritis (SpA). This so-called “gut-joint axis” involves dysbiosis, bacterial translocation, intestinal inflammation and increase in intestinal permeability. Recent data from clinical and basic research suggested that the integrity of the intestinal barrier might be a key determinant in translating autoimmunity to inflammation, making intestinal permeability a potential marker or a target for future therapies.

Objectives: To analyse the available data on intestinal permeability in SpA patients and the effects of drugs such as non-steroidal anti-inflammatory drugs (NSAIDs) on intestinal permeability.

Methods: A systematic review was conducted. Without date restriction, the following databases were searched through September 1, 2020: Medline, Embase and Cochrane. Studies with patients with SpA assessing the intestinal permeability were selected. Some of the included studies have assessed the effect of NSAIDs on intestinal permeability.

Results: A total of 12 studies were included in the final analysis. The 12 studies involved a total of 268 SpA patients, including 240 ankylosing spondylitis (AS). Among the studies included, four studies used the lactulose/mannitol test, four studies used the 51Cr-ethylenediaminetetraacetic test and two studies used the polyethylene glycols test. Nine of the 12 studies reported increased intestinal permeability. Four studies used the lactulose/mannitol test, four studies used the 51Cr-ethylenediaminetetraacetic test and two studies used the polyethylene glycols test. Nine of the 12 studies reported increased intestinal permeability. Among the studies included, four studies used the lactulose/mannitol test, four studies used the 51Cr-ethylenediaminetetraacetic test and two studies used the polyethylene glycols test.

Conclusion: The results of our review suggest that increased intestinal permeability is present in SpA patients even in the absence of NSAIDs use and regardless of the method used to assess intestinal permeability. The effects of NSAIDs on intestinal permeability in SpA patients is more controversial and further studies are needed to clarify them.

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