Frequency and Anatomic Distribution of Magnetic Resonance Imaging Lesions in the Sacro-Iliac Joints of Healthy Subjects and Patients with Spondyloarthritis

S. Hecquet1, J. P. Lustig3, F. Verhoeyen1, M. Chouki1, S. Aubry1, D. Wendling1, C. Prati1. 1University Hospital, Rheumatology, Besançon, France; 2University Hospital, Radiology, Besançon, France

Background: Lesions detected by magnetic resonance imaging (MRI) of the sacroiliac joints are critical to the diagnosis of non-radiographic axial spondyloarthritis (1). However, some lesions, such as bone marrow edema (BME), usually observed in patients with spondyloarthritis may be encountered in other conditions. BME have been described in patients with non-specific back pain, healthy subjects, women with postpartum and in athletes (2). Moreover, it has recently been shown that structural lesions of the sacroiliac joint, such as erosions and fat metaplasia, may be present in healthy subjects (3).

Objectives: To evaluate and compare the frequency and location of lesions (BME, subchondral condensation, fat metaplasia, erosions and ankylosis) on MRIs of the sacroiliac joint of healthy individuals and patients with spondyloarthritis.

Methods: This is a retrospective study conducted at the University Hospital of Besançon including 200 patients, each having received an MRI of the sacroiliac joints in coronal section and in T1 and Semicoronal short tau inversion recovery sequences. Two experienced readers evaluated the whole set of images to collect MRI of 200 patients (62% female), 96 patients had spondyloarthritis predominantly in the antero-middle quadrant. There were 62 (65%) patients with spondyloarthritis in the antero-middle quadrant and in 36% of patients with spondyloarthritis. Fat metaplasia was present in 35% of spondyloarthritis patients and in 23% of control patients. Erosions were seen in 31% of healthy patients and in 61% of patients with spondyloarthritis.

Conclusion: This large retrospective cohort, we observed a significant frequency of inflammatory but also structural lesions on MRIs of sacroiliac joints from healthy patients, which could lead to the misdiagnosis of spondyloarthritis. Fine identification of the location of these lesions is crucial to avoid erroneous diagnosis.

References:

Disclosure of Interests: None declared, Qing Han: None declared, Zhaochu Zhang: None declared, Zheng Yu: None declared, Professor David Yu: None declared, Xiaofan Yang: None declared, Kui Zhang: None declared, Zheng Yu: None declared, Professor David Yu: None declared.