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MRI Assessment of Axial Involvement in Inflammatory Bowel Disease-Related SPA: Age at Disease Diagnosis, Not Extent and Severity of Axial Disease, Relates To HLA-B27

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Abstract

Background: Up to 20% of inflammatory bowel diseases (IBD) cases may have an associated form of Spondyloarthropathy (SpA). Axial disease in SpA may vary from sporadic back pain to advanced spinal fusion, undistinguishable from Ankylosing Spondylitis (AS). Magnetic resonance imaging (MRI) is well established in the assessment of spinal disease in SpA, but axial MRI data in IBD are still sparse. In AS and axial Psoriatic Arthritis (PsA), it has previously been shown that the extent and severity of inflammatory changes of bone marrow oedema (BMO) on MRI is related to HLA-B27.

Objectives: The aims of this study were to describe the prevalence and extent of BMO lesions and their relationship with HLA-B27 status in IBD-related SpA with axial symptoms.

Methods: Consecutive MRI scans [thoracic spine (TS), lumbar spine (LS) and sacroiliac joints (SIJs)], from patients attending the Leeds Combined Rheumatology and Gastroenterology service between 2005–2015, were assessed retrospectively. Scans had been performed as part of clinical assessment for inflammatory back pain. All subjects had histological diagnosis of IBD and fulfilled ASAS classification criteria for SpA, HLA-B27 status and demographics were also collected. MRI scans were scored by consensus by two expert readers, blinded to the clinical characteristics of the patients. We used the semiquantitative (0–3) Leeds MRI Scoring System for BMO lesions representative of inflammation in the spine and SIJs, whereby a lesion graded as moderate (grade 2) is considered clinically significant. Concordant data from the two readers were used to report on definite lesions.

Results: MRI scans from 43 patients were available for analysis; mean age 43.4 yrs (SD 13.2, range 18.1–80.9), 25 were females (58.1%). Mean age at SpA diagnosis was 37.1 yrs (SD 11.9, range 17.1–63). HLA-B27 was positive in 15 subjects (34.9%) and was associated with younger age at SpA diagnosis (p=0.015). The median MRI score and number of BMO lesions were 2 (IQR 0–7 and 0–5, respectively), 13 patients (30.2%) scored zero, 14 subjects (32.6%) showed at least 1 clinically relevant lesion (grade ≥2). Gender, current age or age at MRI scan were not associated with HLA-B27. MRI total (whole axial skeleton) and partial (TS, LS and SIJs single analysis) score, number of BMO lesions and severe lesions (total axial skeleton and TS-LS-SIJs single analysis) were not different according to HLA B27 status.

Conclusions: Although the majority of IBD-related SpA do not carry HLA B27, diagnosis at a younger age was related to HLA-B27 status. Axial BMO lesions in IBD disease showed the whole spectrum of changes noted in AS. Unlike AS and axial PsA, no association was found between the extent and severity of MRI-determined axial disease and HLA-B27.

Disclosure of Interest None declared.