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PReS-FINAL-2185: Prognostic markers in juvenile vs. adult-onset ankylosing spondylitis

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Introduction

Patients experiencing ankylosing spondylitis (AS) symptoms ≤16 years-of-age are classified as juvenile-onset AS (JoAS), whilst those ≥17 years-of-age adult-onset AS (AoAS). Studies from North America, China and Turkey suggest that JoAS and AoAS patients have differing clinical characteristics and functional outcomes; although results have been inconsistent.

Objectives

This study compared JoAS *vs.* AoAS with respect to clinical, functional and genetic outcomes, and determined which factors were related to prognosis, as defined either by a poor BASFI (≥5) or by a history of AS-related surgery.

Methods

143 JoAS were compared with 413 AoAS patients attending a secondary care rheumatology hospital.

A diagnosis of AS was made using the 1987 modified New York criteria. The following clinical parameters were recorded: sex; age at symptom onset (JoAS only); age at Rheumatologist-made diagnosis; the most recent BASFI, BASDAI, BASMI; *HLA-B27* genotype status; the occurrence at any time point of psoriasis, uveitis, enthesitis, inflammatory bowel disease (IBD) or AS-related surgery (hip, shoulder or spinal).

Two group comparisons were made with continuity-corrected Chi-squared, unpaired Student's t-tests and non-parametric Mann-Whitney U-tests. Logistic regression was used to adjust for time since diagnosis.

Results

At assessment, JoAS cases were slightly younger than AoAS cases (mean age 49.0 *vs.* 51.9 years; mean difference in age 2.9 years, 95% CI 0.3-5.6 years). JoAS cases had a slightly longer mean disease duration since diagnosis than AoAS cases (26.0 years *vs.* 19.3 years).

JoAS cases were more likely to have had AS-related surgery than AoAS (18.9% *vs.* 8.0%, respectively; $p < 0.001$; or $p = 0.017$ after adjustment for time from diagnosis), and slightly more had had concurrent IBD (11.2% *vs.* 6.8%; $p = 0.13$).

No statistically significant difference was found between the two groups in terms of BASFI, ten BASFI domains, BASDAI, BASMI, sex distribution, *HLA-B27* positivity, psoriasis, enthesitis, or uveitis (all cases or *HLA-B27* positive cases only).

JoAS cases with psoriasis were more likely to have a poor BASFI (≥5.0) than those without psoriasis (55% *vs.* 25%; $p = 0.016$), and were also more likely to have had AS-related surgery than those without psoriasis (43% *vs.* 15%; $p = 0.006$).

JoAS cases with a poorer BASFI showed a trend for symptom onset at a younger age than those with a better BASFI (<5.0) (mean age 12.5 *vs.* 13.4; $p = 0.08$). Similarly, JoAS cases having had AS-related surgery showed a trend for symptom onset at a younger age than those without surgery (mean age 12.5 *vs.* 13.3; trend $p = 0.18$).

Conclusion

This study is the first to investigate a Northern-European population of Rheumatologist-diagnosed JoAS patients, and is the largest sample of prospectively-collected JoAS data published. JoAS and AoAS patients differed in terms of proceeding to AS-related surgery, and occurrence of IBD. In JoAS, younger age at symptom onset and occurrence of psoriasis, related to poorer prognosis. Delayed diagnosis of JoAS didn't correlate with prognosis.

Disclosure of interest

None declared.

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