Arthritis research

PARE0017 EXPLORING DIFFERENCES IN THE AGE ONSET OF JIA BETWEEN MALES AND FEMALES: A PARENT-LED SURVEY

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Background: The etiology of Juvenile Idiopathic Arthritis (JIA) remains unknown, despite a range of proposed mechanisms under investigation [1]. However, previous research has revealed biological differences depending on the age of onset of JIA, independent of the classification based on the number of joints involved [2].

Objectives: In this parent-led study, the age of onset of JIA by both disease subtype and sex of the child were explored, to identify whether there is a difference in age of onset of JIA between males and females.

Methods: An online survey was shared via social media, targeted at parents of children and young people (CYP) with JIA. Questions probed the age of symptom-onset and diagnosis (by single year of age), JIA subtype and Rheumatoid Factor (RF) status.

Results: Of the 409 CYP included, 296 had polyarticular (poly) or oligoarticular (oligo) JIA, including extended-oligo JIA (72% of all respondents). There were no differences between onset among these subtypes; therefore, they were grouped for further analysis, given comparable disease progression and genetic markers among these subtypes. There was no significant difference regarding age of symptom onset between RF-positive and RF-negative CYP. Amongst those with poly/oligo JIA, there was a clear peak of symptom-onset in the first few years of life, with over half experiencing symptoms before their third birthday, and 73% before the age of five years. Interestingly, the distribution of symptom-onset was significantly different in the poly/oligo JIA group between males and females (P=0.0093), with the onset of poly/oligo JIA appearing to occur earlier in females (Figure 1). Given that some CYP with older-onset JIA are sometimes reclassified as having enthesitis-related arthritis (ERA) when examined in adolescent services, the Mann-Whitney U Test was repeated with only those CYP with JIA onset before the age of seven years. In this case, there remained a significant difference in age of onset of poly/oligo JIA between males and females (P=0.0061).

Conclusion: The age of symptom-onset among CYP with poly/oligo JIA differs between males and females, with females tending to exhibit symptoms earlier. This appears not to be attributable to misclassification of JIA subtype, and so this knowledge may assist future diagnoses of JIA. Further research is required to identify which temporal-associated factors may be critical in JIA onset and development.

REFERENCES

Figure 1. Grouped age of onset of polyarticular and oligoarticular JIA for females and males.
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