

POSTER PRESENTATION

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Disease characteristics and medication use in a multicenter cohort of children with juvenile idiopathic arthritis (JIA): preliminary analyses from the CARRAnet registry

Sarah Ringold^{5*}, Timothy Beukelman⁷, Esi M Morgan DeWitt², Marc Natter¹, Peter A Nigrovic⁶, Yukiko Kimura³, CARRAnet Investigators⁴

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Purpose

The CARRAnet Registry, a multicenter registry of children with rheumatic diseases in the U.S. organized by the Childhood Arthritis Rheumatology and Research Alliance (CARRA), began enrollment in May 2010. Our aims were to describe the characteristics of children with JIA enrolled into the registry to date and to identify characteristics associated with the use of biologic disease-modifying anti-rheumatic drugs (DMARDs).

Methods

Data were extracted for all children with JIA who were enrolled up to December 28, 2010. Children who had ever received biologic DMARDs were compared to children who had not using relative risks (RR) and unpaired t-tests.

Results

1072 children with JIA were enrolled during the first 7 months by 26 centers. The categorical characteristics of the cohort are shown in Table 1 and the continuous characteristics of the cohort are shown in Table 2. 77% had received at least one non-biologic DMARD at enrollment, most commonly methotrexate. 69% had received corticosteroids during their disease course, most frequently intra-articular (49%) and daily oral (36%). 45% of the cohort received one or more biologic DMARD during their disease course. The proportion of patients who received specific biologic agents is shown in Table 3.

Children receiving biologic DMARDs were older at enrollment (mean age 13 years versus 10 years; p <0.001) and had a longer disease duration (mean 6 years versus 4 years; p<0.001). Children with imaging evidence of joint damage (RR 1.6; 95% CI: 1.3-1.9), positive RF (RR: 1.36; 95% CI 1.1 – 1.6), or positive anti-CCP (RR: 1.35; 1.1-1.7) were more likely to have received a biologic DMARD. Children with oligoarthritis were less likely to have received a biologic DMARD than other categories.

Conclusion

The majority of patients with JIA enrolled into the CAR-RAnet registry has relatively low disease activity, minimal disability, and have received at least one DMARD. Positive anti-CCP or RF, joint damage on imaging, older age at enrollment and longer disease duration were associated with biologic DMARD use. Limitations include the underrepresentation of non-English speaking families and enrollment bias. Continued enrollment into this cohort will support future analyses with increased sample sizes and the potential for longitudinal data analysis.

Disclosure

Sarah Ringold: None; Timothy Beukelman: None; Esi M. Morgan DeWitt: None; Marc Natter: None; Peter A. Nigrovic: None; Yukiko Kimura: None; CARRAnet Investigators: None.

⁵Seattle Children's Hospital, Seattle, WA, USA Full list of author information is available at the end of the article



Table 1

JIA Category Systemic 87 (8) Polyarticular (RF-) 334 (31) Polyarticular (RF+) 266 (25) Extended Oligoarticular 91 (9) Psoriatic 56 (5) Enthesitis-Related 110 (10) Undifferentiated 37 (3) Other or unknown 14 (1) Female 783 (73) Race White 965 (89) Black or African American 62 (6) Asian 29 (3) Other 54 (5) Ethnicity Ethnicity Hispanic or Latino 101 (9) Positic Serology ANA 483 (45) RF (initial) 88 (8) RF (confirmatory) 46 (4) Anti-CCP 51 (5) HLA-B27 95 (9) Uveitis Uveitis Current 46 (4) Past 74 (7) ACR Functional Class 1 Class I 87 (81) Class II 179 (17) Class II 28 (3) Class IV 4 (<1) <th>Characteristuc</th> <th>N (%)</th>	Characteristuc	N (%)	
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Very Poor 1 (<1)	Good	352 (33)	
	Poor	28 (3)	
Imaging evidence of joint damagel 265 (25)	Very Poor	1 (<1)	
	Imaging evidence of joint damagel	265 (25)	

Table 2 (Continued)

Physician global assessment of disease activity	2 (1)	0 – 9
Parent/patient assessment of disease acticity	2 (1)	0 - 10
Parent/patient assessment of overall well-being	2 (2)	0 – 9
Patrent/patient asessment of pain	3 (2)	0 - 10
CHAQ score	0.35 (0.125)	0 – 3

Table 3

Biologic medication	Current use	Prior use
	N (% of biologic users)	N (% of biologic users)
TNF-alpha inhibitirs		
Adalimumab	78 (7)	70 (6)
Cartolizumab	4 (<1)	0
Etanercept	214 (20)	183 (17)
Gollimumab	5 (<1)	4 (<1)
Inflximab	46 (4)	46 (4)
IL-1 Inhibitors		
Ankira	14 (1)	22 (2)
Rilonacept	2 (<1)	2 (<1)
Other biologic agents		
Abatacept	24 (2)	8 (<1)
Rituximab	2 (<1)	8 (<1)
Tocilizumab	6 (<1)	0 (<1)

Author details

¹Children's Hospital Boston, Boston, MA, USA. ²Cincinnati Children'sHospital, Cincinnati, OH, USA. ³Hackensack University Medical Center, Hackensack, NJ, USA. ⁴Stanford, CA, USA. ⁵Seattle Children's Hospital, Seattle, WA, USA. ⁶Boston, MA, USA. ⁷University of Alabama-Birmingham, Birmingham, AL, USA.

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Table 2

Characteristic	Mean (Median)	Range
Age at enrollment (years)	11 (12)	<1 - 22
Age at symptom onset (years)	7 (5)	<1 - 16
Age at first rheumatology visit (years)	7 (7)	<1 - 21
Disease duration (years)	5 (4)	0 – 18
Duration between sympton onset and first rheumatology visit (years)	1 (<1)	0 – 12
Number of active joints	2 (0)	0 – 38

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