PReS Conference Abstract 2021

Title: Proportion of children and young people with Juvenile Idiopathic Arthritis (JIA) stopping biologic therapy for remission.

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On behalf of the UK JIA Biologic Registers.

***Topic**: Disease outcome and transition*

***Character Count** (4000 including spaces and 90 lines): ~3400 although still need to insert authors.*

Includes: title, body, authors details and tables (10 rows 10 columns) NO FIGURES.

Abstract:

Introduction: Biologic therapies are common treatments used in children and young people with juvenile idiopathic arthritis (JIA). Concerns about their long-term safety in children and young people has prompted many clinicians to consider tapering or stopping these treatments in patients who have achieved remission, but currently it is unclear whether this is an effective decision and what proportion of children will flare and require further biologic therapy.

Objectives: This analysis aimed to estimate the proportion who stop biologic therapy for remission, how long they were on therapy prior to stopping, how many then re-start biologic therapy and after how long.

Methods: All children and young people with JIA registered on their first biologic without a history of uveitis into the UK JIA Biologic Registers from 1-Jan-2010 up to 1-Feb-2021. Systemic JIA patients were only included if they were starting either IL-1 or IL-6 inhibitors. Other JIA patients were only included if they were starting a TNF inhibitor. Time on drug prior to remission was calculated from the original start date of the biologic therapy, until the date the therapy was stopped for remission, regardless of

interim episodes of stopping due to non-remission reasons. Results were stratified by systemic and non-systemic JIA to account for the differences between ILAR subtypes.

Results: A total of 878 children and young people with JIA were included.

Of the 793 non-systemic JIA patients starting TNF inhibitors – the majority polyarticular RF- (37%), extended-oligoarticular (19%), and ERA (15%) – 131 (17%) patients stopped their first biologic for remission after a median of 2.2 years (IQR 2.0, 2.9). However, 44% later re-started biologic therapy, usually the same biologic (84%), after a median of 4.7 months.

Of the 85 systemic JIA patients starting IL-1 or IL-6 inhibitors, 25 (29%) stopped their first biologic for remission after a median of 2.2 years (IQR 1.5, 3.2). However, 20% later re-started biologic therapy, usually the same biologic (80%), after a median of 4.4 months.

There was no evidence to support that more systemic JIA patients were stopping for remission; age and gender adjusted hazard ratio 1.3 (95% CI 0.8-2.0) compared with non-systemic JIA patients.

Table [10 rows max]:

	Non-Systemic JIA Starting TNF N=793	**Systemic JIA Start IL-1/6 N=85**
Registered Biologic therapy		
Etanercept	544 (69%)	-
Infliximab	28 (4%)	-
Anakinra	-	28 (33%)
Adalimumab	220 (28%)	-
Tocilizumab	-	57 (67%)
Golimumab	1 (<1%)	-
Concomitant MTX	450 (57%)	58 (68%)
Female	527 (66%)	49 (58%)
Age, years		
Median (IQR)	12 (8, 14)	7 (3, 12)
Min to Max	1 to 20	1 to 17
Disease Duration, years	N=782	N=85
Median (IQR)	1 (1, 4)	1 (0, 1)
Min to Max	0 to 18	0 to 9
Remission (% of whole cohort)	131 (17%)	25 (29%)
Time to Remission, years	2.2 (2.0, 2.9)	2.2 (1.5, 3.2)
Time to end of follow-up, if >0	1.5 (0.8, 2.5) N=123	1.4 (0.8, 2.5) N=24
Re-started biologic therapy	58 (44%)	5 (20%)
Time to re-start, years	0.4 (0.2, 0.7)	0.4 (0.1, 0.4)
Re-started same biologic	49 (84%)	4 (80%)

Conclusion: In this large UK study, around 1 in 5 children had their biologic stopped following achievement of remission. For children with non-systemic JIA, almost half restarted their biologic within 2 years, although this proportion was lower for systemic JIA. These data suggest that tapering biologics rather than stopping completely should be explored in some children to minimise biologic exposure without triggering a flare.