patients oldest, 7.4 years vs 6.36/5.5 years adalimumab/golimumab; p<0.0001), while age at therapy start was highest in the golimumab cohort, these patients were significantly older than in the etanercept cohort (12.63 vs 11.6, p=0.0001). The groups differed significantly regarding the CHAQ-DI (etanercept 0.65 vs 0.48/0.46 adalimumab/golimumab, p<0.0001), the JADAS (etanercept 15.1 vs 11.2/11.1 adalimumab/golimumab, p<0.0001), CRP and ESR (both significantly higher in the etanercept cohort than in the adalimumab/golimumab cohort, p=0.0001).

Concomitant therapy with steroids was used significantly more often in the etanercept cohort than in the other two groups (33.4% vs. 24.4/16%, p<0.0001), MTX was applied significantly less in the adalimumab cohort than in the etanercept and golimumab cohort (64% vs. 72% each, p<0.0001). There were significant differences in pre-treatment with other biologics, in the etanercept cohort 5.6% of the patients were pre-treated with biologics, in the adalimumab cohort 58.3% and in the golimumab cohort 78.4% (p<0.0001).

Uveitis before start of treatment was significantly more frequent in the adalimumab and golimumab cohort than in the etanercept cohort (approx. 30% vs. 6.7%, p<0.0001). Uveitis recurrence also differed significantly, occurring most often and earlier (Figure 1A) in the golimumab cohort in approximately 36% of patients with preexisting uveitis, while it was documented in approx. 23% upon adalimumab and in 19% upon etanercept (p=0.02). The rates were 30.5 vs. 10 vs 7.7 events/100PY in the golimumab vs adalimumab vs etanercept cohort (p<0.0007). The first occurrence of uveitis during ongoing therapy did not differ significantly between the cohorts (Figure 1B).

Conclusion: Pre-existing uveitis increases the risk of recurrence compared to the probability of developing first uveitis during treatment. Etanercept is used less frequently in patients with a preexisting uveitis. Adalimumab is often used as first-line biologic therapy for uveitis, so the rate of pre-existing uveitis in this group should be evaluated accordingly in the interpretation. Recurrence of uveitis is significantly more frequent with golimumab than with etanercept or adalimumab. While golimumab is used as a second-line or third-line biologic in almost 80% of cases; the previous treatment refractory status including uveitis of the patients is a bias which should be taken into account when evaluating the data. The results have to be interpreted carefully due to significant differences in baseline parameters. Observation is ongoing.

REFERENCES:

[1] Foeldvari I, Becker I, Horneff G. Uveitis Events During Adalimumab, Etanercept, and Methotrexate Therapy in Juvenile Idiopathic Arthritis: Data From the Biologics in Pediatric Rheumatology Registry. Arthritis Care Res (Hoboken). 2015 Nov;67(11):1529-35. doi: 10.1002/acr.22613. PMID: 25988824.

	Etanercept	Adalimumab	Golimumab	p-value
Patients, n (female,%)	2121 (76.8)	963 (78)	231 (81.8)	n.s.
RF - polyarthritis, n (%)	1017 (48)	451 (46.8)	123 (53.3)	p<0.0002, X^2-test
RF + polyarthritis, n (%)	250 (11.8)	81 (8.4)	14 (6.1)	
Psoriatic arthritis, n (%)	225 (10.6)	90 (9.4)	13 (5.6)	
Extended oligoarthritis, n (%)	629 (29.7)	341 (35.4)	81 (35.1)	
ANA+, n (%)*	1193 (57.8)	630 (67.6)	151 (66.5)	p<0.0001, X^2-test
HLA B27+, n (%)**	256 (14)	102 (13)	26 (14)	n.s.
Age at disease onset, y, mean (SD)	7.4 (±4.6)	6.36 (±4.6)	5.5 (±4.5)	ETA vs ADA p<0.0001, ETA vs GOL p<0.0001
Age at therapy start, y, mean (SD)	11.6 (±4.4)	11.87 (±4.3)	12.63 (±4.1)	ETA vs ADA n.s., ETA vs GOL p=0.0007
JADAS10 (0-40), mean (SD)	15.1 (±7.3)	11.2 (±7)	11.1 (±6.8)	ETA vs ADA p<0.0001, ETA vs GOL p<0.0001
CHAQ-DI (0-3), mean (SD)	0.65 (±0.64)	0.48 (±0.87)	0.46 (±0.59)	ETA vs ADA p<0.0001, ETA vs GOL p<0.0001
CRP, mg/l, mean (SD)	13.48 (±26.45)	7.24 (±20.22)	6.38 (±17.17)	ETA vs ADA p<0.0001, ETA vs GOL p<0.0001
ESR, mm/h, mean (SD)	22.05 (±21.68)	16.66 (±17.82)	16.3 (±19.13)	ETA vs ADA p<0.0001, ETA vs GOL p<0.0001
Concom. Steroids, n (%)	709 (33.4)	233 (24.2)	37 (16)	p<0.0001, X^2-test
Concom. MTX, n (%)	1523 (71.8)	616 (64)	166 (71.9)	p<0.0001, X^2-test
Pretreatment with biologics, n (%)	109 (5.13)	561 (58.3)	181 (78.4)	p<0.0001, X^2-test
Uveitis at baseline, n (%)	141 (6.7)	292 (30.3)	69 (29.9)	p<0.0001, X^2-test
Uveitis flare upon therapy (among patients with uveitis at baseline), n (%)	27 (19.1)	67 (22.9)	25 (36.2)	p=0.02, X^2-test
First uveitis upon therapy, n (%)	48 (2.3)	8 (0.8)	2 (0.9)	n.s.

Table 1 Comparison of patients treated with Etanercept vs Adalimumab vs Golimumab. Baseline data and occurrence of uveitis.
* percentage calculated without the missing data (Eta n=2064, Ada n= 932 , Gol n= 227)
** percentage calculated without the missing data (Eta n= 1825, Ada n= 787 , Gol n= 186)

RF rheumatoid factor, ANA antinuclear antibodies, SD standard deviation, JADAS juvenile arthritis disease activity score, CHAQ- DI Childhood Health Assessment Questionnaire disability-index, CRP c-reactive protein, ESR erythrocyte sedimentation rate, MTX Methotrexate

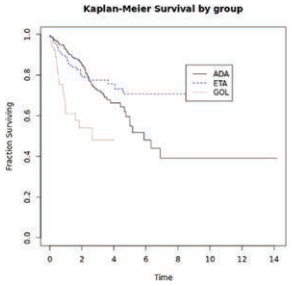

Fig. 1A) Uveitis flares upon therapy with Adalimumab (ADA), Etanercept (ETA) and Golimumab (GOL); p= <0.0001

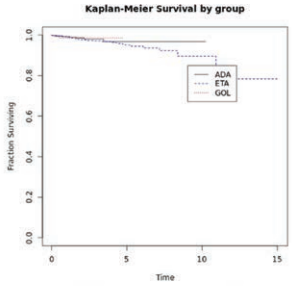

Fig. 1B) First occurrence of uveitis upon therapy with Adalimumab (ADA), Etanercept (ETA) and Golimumab (GOL); p= 0.67

Acknowledgements: This study would not have been possible without the collaboration of numerous German and Austrian paediatric rheumatologists, patients and their parents

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POS0758

PRESENCE OF NAILFOLD CAPILLARY CHANGES CORRELATES WITH MORE SEVERE ORGAN INVOLVEMENT IN JUVENILE SYSTEMIC SCLERODERMA. RESULTS OF THE JUVENILE SCLERODERMA INCEPTION COHORT.

Keywords: Rare/orphan diseases, Observational studies/ registry

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Background: Juvenile systemic scleroderma (jSSc) is an orphan disease with a prevalence in 3 in 1 000 000 children. Positive nailfold capillaroscopy(NF+) finding correlate with more severe disease in adult systemic scleroderma[1]. There is currently no data, if this correlation does exist in jSSc.

Objectives: To assess the difference in patients with jSSc with normal (NF-) and pathologic NF(NF+) findings at the time of inclusion in the cohort.

Methods: Baseline data was extracted from patients enrolled in the juvenile scleroderma inception cohort that had nailfold capillaroscopy performed at inclusion [2] until 1st of December 2023. NF was performed by dermatoscope and/ or high-resolution video nailfold capillaroscopy. We compared patients with NF+ and NF- findings from the baseline visit using chi-square test.

Results: 237 patients were included in the analysis, 185 (78%) of them were female. 126 (70%) had diffuse subtype. 183/237 patients (77%) were in the NF+ group. 71% in the NF+ group were Caucasian compared to 85% in the NF- group (p=0.051). Median disease duration was 2.3 years in the NF+ and 3.2 years in the NF- patients. Median age at onset of the first non-Raynaud´s was around 11 years in both groups. More patients in the NF+ group were ANA positive (95% compared to 79%, p <0.001). There was no difference in the anti-Scl70 or anti-centromere distribution.

NF+ patients had significantly more frequent Raynaud phenomenon (96% compared to 78%, p<0.001); history of digital ulcerations (59% compared to 27%, p<0.001); abnormal high resolution CT findings of the lung (49% compared to 30%, p=0.034); overall gastrointestinal involvement (49% compared to 20%, p<0.001); oesophageal involvement (47% compared to 19%, p<0.001); musculoskeletal involvement (71% compared to 41%, p=0.003); presence of joints with decreased range (63% versus 45%, p=0.022) and presence of muscle weakness (25% compared to 3%, p=0.002). No significant differences were demonstrated in involvement of other organ systems such as skin, cardiac or renal. (see Table 1)

Table 1

Comparison Nailfold Capillary Changes at time of inclusion in the cohort	Nailfold Capillary Changes present N=183	Nailfold Capillary Changes not present N=54	P value
Female to Male Ratio:	3.6:1 (143/40)	3.5:1 (42/12)	
Caucasian	71% (132/183)	85% (46/54)	0.051
Cutaneous subtype:			
Diffuse subtype	69% (126/183)	69% (37/54)	0.963
Limited subtype	31% (57/183)	31% (17/54)	
Median Disease duration (years), IQR	2.3 (1.1 – 4.3)	3.2 (0.6 – 5.5)	
Autoantibody positivity:			
ANA	95% (166/174)	79% (41/52)	<0.001
Vascular:			
Raynaud´s phenomenon	96% (175/183)	78% (42/54)	<0.001
History of ulceration	59% (107/182)	27% (14/52)	<0.001
Cardiopulmonary Involvement:			
Overall	54% (98/183)	48% (26/54)	0.485
Abnormal findings on HRCT	49% (69/141)	30% (12/40)	0.034
Renal Involvement:			
Overall	3% (5/183)	2% (1/54)	0.717
Gastrointestinal Involvement:			
Overall	49% (89/183)	20% (11/54)	<0.001
Oesophageal Involvement	47% (86/183)	19% (10/54)	<0.001
Musculoskeletal Involvement:			
Overall	71% (130/183)	49% (26/53)	0.003
Joints with decreased range	63% (115/183)	45% (24/53)	0.022
Muscle Weakness	25% (43/172)	3% (1/39)	0.002

IQR: interquartile range, 25th-75th%; ANA: Anti-nuclear antibody; Scl: Scleroderma; HRCT: High-Resolution Computertomographie

Conclusion: In a jSSc cohort there were significantly more patients affected within various organ systems in those with nailfold capillary changes at enrollment compared to those without. Future studies should assess whether these differences persist over time.

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REFERENCES:

[1] Vanhaecke A, Cutolo M, Distler O, et al. Nailfold capillaroscopy in SSc: innocent bystander or promising biomarker for novel severe organ involvement/progression? Rheumatology (Oxford). 2022 Nov 2;61(11):4384-4396.

[2] Foeldvari I, Klotsche J, Kasapcopur O, et al. Differences Sustained Between Diffuse and Limited Forms of Juvenile Systemic Sclerosis in an Expanded International Cohort. Arthritis Care Res (Hoboken). 2022 Oct;74(10):1575-1584.

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POS0759 ENDOCRINE DYSFUNCTION IN PATIENTS WITH JUVENILE IDIOPATHIC ARTHRITIS

Keywords: Real-world evidence, Descriptive Studies, Best practices, Observational studies/ registry, Quality of life

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Background: Juvenile idiopathic arthritis (JIA) is most common form of childhood rheumatic disease. Growth failure and pubertal delays are potential threat to a developing child. Understanding these dynamics are crucial for optimizing patient care and addressing growth related concerns in children.

Objectives: To assess the prevalence of endocrine dysfunction in JIA and to identify potential contributory factors like disease activity and steroid use for growth failure and sexual development.

Methods: A prospective observational study was conducted between January 2022 to January 2023 and recruited 107 children of JIA fulfilling revised International League of Associations for Rheumatology classification criteria with disease duration of more than six months, attending outpatient and inpatient facility in Department of Clinical Immunology and Rheumatology, King George's Medical University. It excludes individuals with secondary amyloidosis, active macrophage activation syndrome or other genetic growth and sexual developmental disorders. Demographic, clinical, and anthropometric evaluation were done at baseline. Pubertal maturity was assessed by characterizing individuals Tanner stage. Disease related parameters like disease activity, damage, quality of life and functional status were assessed by Juvenile arthritis disease activity score (JADAS27), Juvenile arthritis damage index (JADI), Paediatric rheumatology quality of life questionnaire (PRQoL) and Childhood health assessment questionnaire (CHAQ), respectively. Serum growth hormone (GH), insulin like growth factor 1 (IGF 1), IGF 1 binding protein 3 (IGFBP3) were measured at baseline and expressed as an absolute value as well as standard deviation score (SDS). Serum Follicle-stimulating hormone (FSH), Luteinizing hormone (LH), Estradiol and Testosterone levels were checked. Patients were followed up for one year and growth velocity was recorded.

Results: Out of 107 JIA patients, 72 were boys (67.3%) of age 13 years (± 4 years). The age of onset was 10 years (± 4 years) with a disease duration of 33 months (± 24 months). Enthesitis related arthritis (51.4%) was the most frequent diagnosis among our study population followed by RF negative polyarthritis (15%). Baseline mean glucocorticoid intake was 2.2 (± 5.4) mg/day, with a duration of 4.6 (± 10.3) months. Average cumulative dose of glucocorticoid in our study population was 572.2 (± 1260.7) mg.

Anthropometric measurement revealed 20.6% were stunted, 22.4% were malnourished and 25.2% had low BMI for their respective age. Shorter individual were more likely to have early age of disease onset and higher GH level but less likely to have enthesitis related arthritis. Malnourished individuals had higher duration of illness and higher extra-articular damage. Changes in BMI were more robust which shows a close association with disease related factors (Table 1).

Majority of children had attained age-appropriate tanner stage (72.4%). Delayed puberty and menarche were noticed only in 2.8% of children. Most of the patients had normal gonadotrophins with low sex hormones. Low estradiol was seen in 31.4% of girls with a clear association with long term steroid use. Though 47.2% of boys had low testosterone but it didn't reach statistical significance for any disease or therapy related factors.

Majority of the patients showed normal growth velocity for their respective age at one year follow up visit. Slower growth velocity was observed in 22.4% of children but not attributable to any of those baseline characteristics like disease activity, steroid use, or hormonal levels. Neither GH nor IGFBP3 SDS correlates well with height SDS.

Conclusion: Juvenile idiopathic arthritis is linked to clinical and subclinical endocrinal dysfunction. One-third of children with JIA experience growth failure and delayed puberty, primarily due to growth hormone resistance and alterations in the GH-IGF1 axis. Malnutrition and stunted growth should be considered during childhood arthritis treatment due to their impact on health and quality of life.

Table 1: Associations of anthropometric measurement

Parameters	Height for age			Weight for age			BMI for age		
	Normal	Short	p-value	Malnourished	Normal	p-value	Normal	Under Weight	p-value
	Mean (SD)	Mean (SD)		Mean (SD)	Mean (SD)		Mean (SD)	Mean (SD)	
Age of onset *(years)*	10.6 (3.8)	8.9 (3.0)	**0.015***	9(4)	10.6 (3.6)	0.065	10.3(4)	9.9(3)	0.336
Disease duration *(months)*	32 (20)	38 (35)	0.901	44(32)	30(20)	**0.047***	30(21)	44(29)	**0.012***
Duration of GC use *(months)*	3.8 (8.0)	7.6 (16.6)	0.629	8.1(16)	3.6(7.9)	0.321	3.6(8)	7.7 (15.2)	0.368
Cumulative GC dose *(mg)*	493.3 (937.4)	877.0 (2094.3)	0.686	1014.2 (2056.1)	444.4 (891.7)	0.406	466.8 (966.8)	884.4 (1872.2)	0.432
PGA	4.4(2.4)	4.2(2.4)	0.846	4.9(2.5)	4.2(2.4)	0.175	4.1(2.4)	4.9(2.3)	0.141
PhGA	4(2)	3(2)	0.389	4(2)	3(2)	0.284	3(2)	4(2)	0.107
JADAS27	12.7 (8.4)	12.1 (8.6)	0.603	14.9(10.6)	11.9 (7.6)	0.378	11.3 (7.4)	16.4 (10.1)	**0.029***
JADI-A	2(5)	2(4)	0.273	3(4)	2(5)	0.090	2(4)	4(7)	**0.013***
JADI-E	0(1)	1(1)	0.193	1(1)	0(1)	**0.006***	0(1)	1(1)	**0.001***
PRQoL	9(6)	9(6)	0.988	11(6)	8(5)	0.079	8(5)	11(6)	**0.008***
CHAQ	0.66 (0.52)	0.53 (0.38)	0.371	0.74(0.52)	0.60 (0.49)	0.238	0.56 (0.45)	0.84 (0.58)	**0.023***
ESR	43 (33)	46 (35)	0.764	46(37)	43(32)	0.872	38(29)	58(40)	**0.029***
CRP	27.3 (28.4)	22.3 (24.8)	0.706	28.6(29.3)	25.6 (27.3)	0.720	24.9 (28.1)	30.1 (26.3)	0.298
GH *(mIU/L)*	7.82 (11.04)	10.71 (10.79)	**0.017***	9.31(10.4)	8.15 (11.22)	0.145	8.24 (11.25)	8.93 (10.43)	0.360
IGF-1 *(ng/ml)*	240.70 (142.52)	178.20 (101.15)	0.059	197.21(96.16)	236.71 (145.99)	0.418	234.43 (144.77)	208.33 (110.93)	0.357
IGFBP3 *(ug/ml)*	3.67 (1.58)	3.01 (1.35)	0.061	3.31(1.54)	3.60 (1.56)	0.448	3.58 (1.6)	3.39 (1.44)	0.785

REFERENCES: NIL.

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POS0772 TOWARDS CLINICAL ENDOTYPING OF OLIGOARTICULAR AND POLYARTICULAR JUVENILE IDIOPATHIC ARTHRITIS PATIENTS IN ADULTHOOD: RISK OF RELAPSE AND ASSOCIATED FACTORS

Keywords: Descriptive Studies, Remission, Prognostic factors