Note: Combination refers to ETN + MTX or ADA + MTX
Abbreviations: JIA, juvenile idiopathic arthritis; ETN, etanercept; ADA, adalimumab; MTX, methotrexate

Figure 1. To show the patients with JIA receiving a monotherapy (with ETN, ADA or MTX) or a combination therapy and the number of uveitis diagnoses.

DOI: 10.1136/annrheumdis-2017-eular.1857

THU0520   **PELVIC ULTRASOUND IN THE ASSESSMENT OF SEXUAL MATURITY IN GIRLS WITH JUVENILE IDIOPATHIC ARTHRITIS**

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Background: Delayed puberty is common in children with chronic illnesses such as Juvenile Idiopathic Arthritis (JIA),especially in cases with an earlier age of onset.Its etiology is multifactorial and includes low weight,complications arising from the disease itself and the adverse effects of treatment.

Objectives: To compare uterine and ovarian size as well as artery pulsatility between girls with juvenile idiopathic arthritis (JIA) and healthy participants using abdominal pelvic ultrasound,and identify these findings and pubertal staging,sex hormones and disease characteristics in girls with JIA.

Methods: This study involved 44 girls with JIA and 59 healthy controls aged between six and 18 incomplete years.Pelvic ultrasound was used to determine uterine volume and length,the corpus/cervix ratio,ovarian volume and length,and the pulsatility index (PI) of uterine arteries.Hormone levels were also measured in girls with JIA.
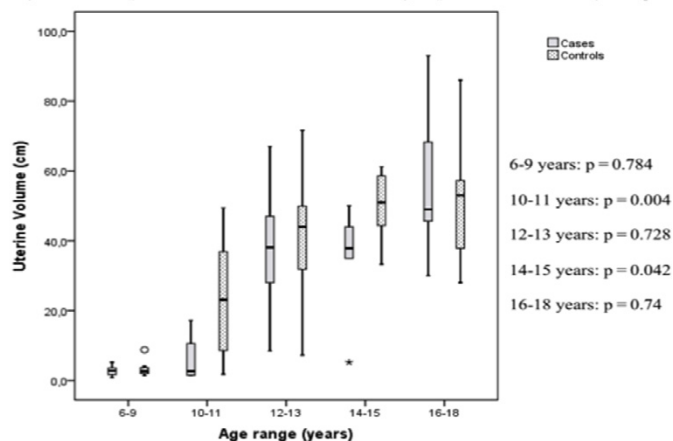
Results: All US parameters were associated with Tanner stages in the control group (p<0.001).Uterine and ovarian measures were smaller in girls with JIA

Table 1. Comparison of abdominal pelvic US findings between control participants and patients with JIA

Variables*	Patients (n=?44)	Control participants (n=?59)	p
Uterine volume (cm^3)	10.5 (2.4–40)	36.6 (8.8–50.9)	0.009
Uterine length (cm)	4.92±1.83	5.91±1.80	0.008
Corpus to cervix ratio (cm)	1.18±0.25	1.36±0.27	0.001
Endometrium (mm)	1.4 (0–5.2)	5.4 (1.4–7.2)	0.016
Left Ovarian Length (cm)	2.60±0.69	3.04±0.84	0.006
Left Ovarian Volume (cm^3)	3.3 (1.5–5.2)	5.0 (3.0–7.1)	0.004
Right Ovarian Length (cm)	2.79±0.71	3.17±0.75	0.013
Right Ovarian Volume (cm^3)	2.9 (1.5–6.3)	5.9 (3.0–9.1)	0.006
Mean uterine PI	4.6 (2.7–6.5)	2.5 (1.9–5.1)	0.025

PI, pulsatility index. *Described as median (25th-75th percentile) or mean ± standard deviation.

Figure 1 – Comparison of uterine volume between groups across different age ranges

6-9 years: p = 0.784
10-11 years: p = 0.004
12-13 years: p = 0.728
14-15 years: p = 0.042
16-18 years: p = 0.74

than in the control group.The mean PI of uterine arteries was higher in girls with JIA.Comparisons by age group revealed that uterine volumes were smaller in girls with JIA aged between 10 and 11 years (p=0.004) and 14 to 15 years (p=0.042),and the corpus/cervix ratio was smaller in girls aged 10 to 11 years (p=0.007).US measures were not associated with disease factors in the JIA group.LH and estradiol levels were found to be positively associated with ovarian and uterine size (p<0.001),but negatively correlated with the mean PI of uterine arteries (p<0.01).

Conclusions: Pelvic US is a sensitive method for the assessment of sexual maturation in girls,and can identify developmental delays in girls with JIA which may not be detected by Tanner staging.

References:
[1] Pozo J,Argente J.Delayed puberty in chronic illness.Best Pract Res Clin Endocrinol Metab 2002;16:73–90.
[2] Holm K,Laursen EM,Brocks V,Muller J.Pubertal maturation of internal genitalia:authors' reply.Ultrasound Obstet Gynecol 1995;6:452–3.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2017-eular.4389

THU0521   **ENTHESITIS-RELATED ARTHRITIS: NON-PERIPHERAL PATTERN IS ASSOCIATED WITH TH17 CELLS**

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Background: Enthesitis-related arthritis (ERA) is a category of juvenile idiopathic arthritis. Different proinflammatory cytokines linked to the Th1 and Th17 T- cell subsets have been implicated in its pathogenesis. Limited data are currently available about the relationship between disease activity and the clinical pattern and the percentage of Th1and Th17 T- cell subsets.

Objectives: To analyze Th1 and Th17 cell subsets in patients with ERA and to compare with age-matched healthy controls. To assess the association between disease activity and disease clinical pattern with Th1and Th17 cells subsets

Methods: Patients with ERA (according to ILAR criteria) were included in a cross sectional study. Disease activity measures were collected in random visits: active joint count (AJ), pain score (0–10), presence of active enthesitis (AE), sacroiliac pain (SIP), lumbar pain (LP),lumbar limitation (LL) by Schöber's test, wellbeing according to the patient using a visual analogue scale (VASp, 0–10), disease activity according to the physician (VASphy, 0–10), JADAS-10, JSpADA, and ESR/CRP were evaluated. Patients were classified based on the disease pattern (peripheral and non-peripheral) depending on the presence or absence of AJ and/or AE. Functional capacity was also assessed by CHAQ. Presence of radiologic sacroiliitis (MRI/X-rays) and treatment with TNF inhibitors (TNFi) were recorded. Th-17 and Th-1 cells were quantified by flow cytometry in PBMCs stimulated with PMA/IO. Age-matched healthy children without disease or medication were recruited as normal control. Comparison between groups (Mann-Whitney Utest) and correlation tests as appropiate

Results: Twenty-nine patients (90% M) fulfilled inclusion criteria. HLA-B27 was positive in 13 (45%). Median age at observation was 12 years and median disease duration was 2.1 years. Activity and functional measures were (medians): AJ 1, pain 0.25, VASp 0.5, VASphy 1, JADAS-10 7, JSpADA 1.75, ESR 15 mm/h, and CHAQ ≥0,5=8 patients (27%). AE was present in 1 (3%), SIP in 7 (24%), LP in 6 (21%), and LL in 12 (41%) children. Nineteen (65%) patients showed JADAS >1 and 21 (76%) JSpADA>0. Radiologic sacroilitis was recorded in 21 (72%) children. Fourteen (48%) patients were treated with TNFi. Th1cell percentage in ERA was 8.5±3.4% (range, 4–17.4) while healthy controls was 5.8±3.8% (range, 1.2–14.2), p=0.023. Th17cell% in ERA was 0.90±0.44 (range, 0.39–2.34%) while controls was 0,55±0.38 (range, 0,17–1,61%); p=0.004. There was no difference between T-cells% and active/inactive disease. Eighteen (62%) children showed peripheral pattern, while 11 (38%) exhibited non-peripheral. Peripheral and non-peripheral groups showed Th17%cells 0.90 (0.39–1.74) vs 1.14 (0.64–2.44) respectively (p=0.018).Significant correlations were Th1 with AJ (r=0.45 p=0.004) and Th17with LP (r=0.83 p=0,0001), LL (r=0.47 p=0.03).

Conclusions: Th1 and Th17 cells subsets were significantly higher in ERA compared with healthy controls. However, T-cells showed no significant difference between patients with active versus inactive disease. Interestingly, non-peripheral pattern showed higher Th17% cells respect to patients with peripheral disease.Our results suggest that Th17 evaluation could help identify different phenotypes that benefit from Th-17 blocking strategies.

References:
[1] Biologic agents in juvenile spondyloarthropathies. Katsicas MM, Russo R. Pediatr Rheumatol Online J.2016Mar 12;14 (1):17.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2017-eular.6726

THU0522   **CORRELATION BETWEEN SERUM CALPROTECTIN (MRP8/14), CLINICAL AND ULTRASOUND ASSESSMENT IN PATIENTS WITH JUVENILE IDIOPATHIC ARTHRITIS**

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Background: MRP8/14 (also known as calprotectin) has been widely studied as