Objectives: The aim of this study was to search for biomarkers of ineffective early intra-articular steroid injections of oligoarticular onset juvenile arthritis.

Methods: Clinical, imaging, laboratory data (blood and synovial fluid), and effect of early isolated intra-articular injections (is-IAI) of triamcinolone acetonide 92 children (89% girls) aged median (IQR) 4.2 (1.6–7.6) years with oligoarticular onset juvenile arthritis without extra-articular manifestations (oligo-JA) were collected retrospectively and analyzed. All children were met ILAR criteria. Triamcinolone acetonide (TA) was administered intra-articular at a dose of 20-40mg with an injection interval of 3–6–12 months which was depended on the activity of the disease. All children were divided into two groups: active / inactive arthritis based on the effectiveness of local corticosteroid treatment. The average follow-up was 48 [38; 62] months.

Results: 32 children (35%; all girls) were achieved remission oligo-JA after is-IAI of TA with mean of 2 [1,7; 2] injection per joint (inactive arthritis > 24 months). The mean interval between two consecutive is-IAI was 7 [5;25; 40] months. Other children did not achieve inactive oligo-JA after is-IAI of TA with mean of 3 [2; 4] injection per joint. The mean interval between first two consecutive injection was 5.5 [4,25; 7] months and other injections - 2 [2; 3] months. All children who did not achieve remission oligo-JA for is-IAI were treated by DMARDs. Statistical analyses were performed to determine the relationships between clinical, instrumental, laboratory signs and efficacy of TA. Measures included the number of swollen or tender joints [active joint counts]; biological inflammatory markers [erythrocyte sedimentation rate (ESR), C-reactive protein (CRP), serum and synovial fluid level of interleukin 6 (IL6) and tumor necrosis factor alfa (TNF-α)]; autoimmunity [titre of antinuclear factor (ANF)] and physicians' assessment of JIA disease activity [clinical Juvenile Arthritis Disease Activity Score including maximal 10 joints (cJADAS10)]. Efficacy is-IAI of TA was no associated significantly with number of active joint of onset oligo-JA, cJADAS10, serum level of CRP mg/ml, ESR mm/h, IL6 pg/ml and TNF-α pg/ml, titer of ANF. The mean inflamed synovial fluid of IL6 levels 2208 [710; 4564] / 3234 [1265; 16902] pg/ml and TNF-α levels 3,3 [2,5; 3,8] / 1,1 [0,6; 3,7] pg/ml at onset of inactive and active oligo-JA were not significantly differ. The analysis revealed a correlation between a short phase of beneficial effect after is-IAI of TA and risk of activity disease (with an inactive phase of arthritis less than 3 months, the risk activity was OR = 2.09, p <0.001; with an inactive phase less than 2 months - OR = 8.9, p <0.001).

Conclusion: TA is an effective and safe treatment in children with oligo-JA. Research was revealed that about a third of children with oligo-JA achieved inactive arthritis of average after two intra-articular injections of TA (all girls). There are no predictors for prediction of poor treatment response in oligo-JA to early steroid injections. But a short phase of beneficial effect after is-IAI of TA may be sign of risk activity disease. In addition boys with oligoarticular onset juvenile arthritis may be considered like potentially ineffective for local steroid therapy.

REFERENCES:

Disclosure of Interests: None declared
DOI: 10.1136/annrheumdis-2021-eular.1619

AB0725
MACROPHAGE ACTIVATION SYNDROME IN CHILDREN WITH RHEUMATIC DISEASES: ANALYSIS OF CASE SERIES
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Background: Macrophage activation syndrome (MAS) is a rare, but severe life-threatening complication of chronic rheumatic disease (RD) in children, which associated with high risks of the multiple organ failure and mortality.

Objectives: To analyze demographic, clinical and laboratory parameters, timing of MAS and disease outcome in patients (pts) with MAS and RD.

Methods: The study included all pts of single center with RD, who developed the MAS. The diagnosis was recognized according to Classification criteria for MAS in sJIA [1].