raised urinary ca creat ratio, raised urinary NAG/RBP — 4/15 on USS and 9/15 in blood/urine tests, 2/15 on both USS and blood/urine tests. **Lungs:** 7 (13.5%): 6 abnormal lung function test, 1 abnormal CXR, lung function & CT chest - severe interstitial lung disease & presented- progressive shortness of breath. **Skin:** 10(19.2%), eczema-like/non-specific skin **Parotid/glandular:** 1 (1.9%) on USS **Splenomegaly:** 4 (7.7%) on USS **Sensorineural hearing loss:** 2 (3.8%)

Medications to treat uveitis and/or extra-ocular manifestations were: Methotrexate 13 (25%), Methotrexate + Adalimumab 11 (21.2%), MMF 6 (11.5%), topical steroids 8 (15.4%), systemic steroids 2 (3.8%). 10 patients no medication

Conclusion: Most of the sarcoid-like uveitis patients had at least one extra-ocular involvement. ACE does not appear to be a sensitive biomarker. Some patients (19.2%) have a mild phenotype and require no treatment. Our data demonstrate the importance of close monitoring for extra-ocular manifestations and highlight good clinical response to steroids, MTX, MMF and anti-TNF.

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THU0525

DEVELOPMENT OF A PREDICTIVE TOOL FOR RESPONSE TO ANTI-TNF-ALPHA THERAPY IN JIA USING GENE EXPRESSION PROFILES IN PERIPHERAL DERIVED MONONUCLEAR CELLS

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Background: Heterogeneity in response to biological medication is a major challenge in the management of Juvenile Idiopathic Arthritis (JIA) (1). Biomarkers such as cytokines or whole blood RNA expression profiles that predict therapy efficacy prior to treatment pose a solution and could enable precision medicine. It was previously demonstrated that whole blood gene expression profiles can predict response to anti-TNF- α therapy in patients with JIA (2). These findings currently await validation in a multicenter prospective cohort study. Harmonization of data from different cohorts, however, is often hampered by site-dependent differences in biological sample collection and processing (3). For instance, the biological material that is retrospectively available from biobanks depends on what is stored exactly, e.g. whole blood versus peripheral blood mononuclear cells (PBMC). Furthermore, different blood collection tubes containing different additives can affect sample quality at an early stage and make interchangeability or comparability of data impossible.

Objectives: We evaluated the comparability of gene expression profiles when whole blood from patients with JIA is collected in different RNA collection tubes and processed accordingly. Next, we will investigate the predictive capacity for therapy response of RNA expression profiles from frozen PBMC of 63 JIA patients.

Methods: Peripheral blood from 11 children with non-systemic JIA with active disease was collected in PAXgene (PreAnalytiX) and Tempus (Applied Biosystems) tubes. All tubes were subsequently stored in the freezer at -80 °C. After thawing, RNA from the PAXgene tubes was extracted with use of the PAXgene Blood RNA Kit and RNA from the Tempus tubes was isolated by using the Tempus Preserved Blood RNA Purification Kit I. Gene expression of *CSNK1D*, *C1D*, *ASAP2*, *SRRD*, *PPP1R3B*, *HLA-DQA1*, *PDZK1IP1* and *MZB1* was determined with qPCR. For our next experiment, frozen PBMC derived from patients with non-systemic JIA who are included in our longitudinal Pharmachild registry biobank will be used. Of the 63 patients, 28 (44.4%) children were diagnosed with oligo articular JIA, 19 (30.2%) with poly articular JIA, 9 (14.3%) with enthesitis-related JIA, 4 (6.3%) with psoriatic JIA and 3 (4.8%) with undifferentiated JIA. The average age at sampling was 11.5

years $\pm$ 4.0 and 65% of the patients was female. These samples will be run on a 96-analyte NanoString panel and associated with clinical response at time points 3 and 6 months after start of TNF- α blockade.

Results: Both RNA blood collection systems yielded high-quality RNA, with overall higher RNA concentrations for blood collected in Tempus tubes in comparison to PAXgene tubes. qPCR data showed that gene expression of all measured genes is affected by the method of blood collection and processing. However, the inter-individual variation was similar between both collection tubes, indicating that similar RNA profiles were observed.

Conclusion: Gene expression profiles derived from whole blood collected in PAXgene or Tempus tubes are comparable, but are not interchangeable.

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THU0526

LONG-TERM OUTCOME IN JUVENILE IDIOPATHIC ARTHRITIS – A POPULATION-BASED STUDY FROM SWEDEN

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Background: Juvenile idiopathic arthritis (JIA) is the most common rheumatic disease in children. The incidence rate among Caucasians is reported to be 8-15/100 000/year (1, 2). The long-term prognosis is insufficiently studied in JIA, although it is known that the disease often proceeds into adulthood and may cause joint damage leading to significant morbidity and physical disability. There are many challenges in elucidating the long-term prognosis. Amongst others, frequent occurrence of disease misclassification in diagnostic registers and the heterogeneity of JIA have made it difficult to interpret results (3, 4).

Objectives: To study the epidemiology, incidence and long-term outcome of JIA in southern Sweden using a population-based cohort of children with a validated diagnosis of JIA collected over nine years.

Methods: Potential cases of JIA, diagnosed between 2002 and 2010 were collected from a local search at the Department of Rheumatology in Lund and at the National Board for Health and Welfare, using the ICD-codes M08-M09. The study area is Skåne, the southernmost county of Sweden (population 1.24 million; 19.1% aged < 16 years) and the median follow-up time was eight years. The JIA-diagnosis was validated and subcategorised through medical record review based on criteria defined by The International League of Associations for Rheumatism. Parameters on disease activity and pharmacologic treatment were recorded annually until the end of the study period.

Results: 251 cases of JIA were confirmed. The mean annual incidence rate for JIA was estimated to be 12.8/100 000/year. The highest age specific annual incidence is at the age of two years (36/100 000/year). This peak is consistent in the female group, but the incidence peak among males is at twelve years of age. Almost all patients are at some point during their disease course prescribed non-steroidal anti-inflammatory drugs (98%). Intra-articular steroid injections are also frequently used (78.9% in the total cohort). Methotrexate is the most common disease modifying anti-rheumatic drug prescribed (60.6%). Tumor necrosis factor alpha-inhibitors are used as treatment in 23.9% of the children.

Oligoarthritis was the largest subgroup (44.7%), followed by undifferentiated JIA (16.3%), polyarticular rheumatoid factor negative JIA (13.9%), enthesitis-related arthritis (8.8%), polyarticular rheumatoid factor positive JIA (6.8%), juvenile psoriatic arthritis (6.8%) and systemic JIA as the smallest subgroup (2.8%).