Methods: We included data about 90 JIA (26 M and 64 F) aged from 2 to 17 years, who received scheduled vaccination before the age of 2 years and before JIA onset. In all patients the Ig G anti-mesibles (AM), anti-parotitis (AP), anti-hepatitis B (AHB), anti-diphtheria (AD) and anti-rubella (AR) AVA levels were detected with ELISA. In each patient we evaluate the type of the JIA (oligoarthritis – OA (n=38), polyarthritis – PA (n=36), systemic-SA (n=7) and enthesitis-related arthritis – ERA (n=10), routine disease activity and treatment. In healthy controls were measured anti-mesiles (n=40) and anti-parotitis (n=30) antibodies (AB) for comparison with JIA.

Results: The main demographic characteristics: age of inclusion in the study 11 (8-15) years, disease onset 6 (4-8) years, JIA duration 2 (2-7) years. The AM AB in JIA patients were 0.2 (0.0-0.5) IU/ml and in HC 0.3 (0.2-1.1) IU/ml (p=0.00002), despite the higher number of JIA patients than HC (p=0.00000001); AP AB were 2.6 (1.0-5.1) IU/ml vs 1.1 (0.0-4.9) IU/ml in JIA and HC, respectively (p=0.08). Protective levels of AM AB was detected in 50% of all JIA population, vs. HC – 87.5% (p=0.00005), AP–67.7% vs. 60% in HC (p=0.076), AHB – 54.4%, AD–50%, AR–97.8%. The main data related to vaccination status in the table. We have found correlation between JIA duration and levels AM AB (r=-0.37, p=0.001), and AD AB (r=-0.29, p=0.007); treatment with AM AB (r=-0.25, p=0.018), and using more than one biologics with AR AB (r=-0.27, p=0.047). In the regression model only MTX had a negative impact on AM (r=-0.001) and AD AB (r=-0.005).

Disclosure of Interests: None declared

THU0542 THE PSYCHIATRIC DISORDERS IN CHILDHOOD, ADOLESCENCE AND YOUNG ADULTS WITH JUVENILE IDIOPATHIC ARTHRITIS PATIENTS IN FINLAND

Minna Kyllönen1, Hannu Kautiainen2, Kari Purolakka3, Paula Vähäsalonen4.

1 Department of Internal Medicine, Oulu University Hospital, Oulu, Finland
2 Department of Medicine and Primary Health Care, University of Helsinki, Helsinki, Finland
3 South Karelia Central Hospital, Lappeenranta, Finland
4 Department of Pediatrics, Oulu University Hospital, Oulu, Finland

Background: Reported psychiatric morbidity among juvenile idiopathic arthritis (JIA) patients has varied between 9.3-51% (1-3). The variation between studies can be explained by differences in the study populations (age, disease duration and disease state) and differences in the study methods (1-3). Depression and anxiety are the most common disorders, but most studies were based on questionnaires to investigate incidence of only these two diseases (1).

Objectives: To explore mental and behavioral disorders in JIA patients compared to the control population.

Methods: All incidents patients with JIA during 2000-2014 were collected from the nationwide register, maintained by the Social Insurance Institution of Finland (4). The National Population Registry identified three controls (similar regarding age, sex and residence) for each case. They were followed up together until 31st Dec 2015. ICD-10 codes of psychiatric diagnosis (F10-F99) were picked up from the Care Register for Health Care of the National Institute for Health and Welfare.

Results: During 28,941 follow-up years, 974 (23%) JIA patients were diagnosed with mental or behavioral disorders, whereas the number in the control group was 1,807 (15%), (p<0.001). Neurotic, stress-related and somatoform disorders (F40-48) and mood (affective) disorders (F30-39) were the most common psychiatric diagnoses in the JIA (10.41% and 8.18%) and in the control group (5.44% and 5.13%). The odds ratio for neurotic disorders (F40-48) was 2.02 (95% CI 1.78-2.29) and for mood disorders (F30-39) 1.65 (95% CI 1.44-1.89). Additionally, JIA was statistically significantly associated with behavioral and emotional disorders and disorders of psychological development (Table). Female patients with JIA had higher odds ratios than males for all mental and behavioral disorders except behavioral syndromes (F50-59), for which males with JIA had higher odds ratio.

Conclusion: The risk of psychiatric disorders in JIA patients is increased.

REFERENCES:


Disclosure of Interests: None declared

THU0543 LATENT TUBERCULOSIS INFECTION IN CHILDREN WITH PEDIATRIC RHEUMATOLOGIC DISEASES TREATED WITH CANAKINUMAB

Bahalan Makay1, Özge Altug Gucmen2, İler Kcağlar3, Süleyman Nuri Bayram4, Nesrin Güle5, Iker Devrim5, Dr. Behçet Uz Children’s Hospital, Department of Pediatric Rheumatology, İzmir, Turkey; Dr. Behçet Uz Children’s Hospital, Department of Pediatric Infectious Diseases, İzmir, Turkey

Background: Little is known about the long-term safety of canakinumab with respect to tuberculosis (TB) risk in pediatric rheumatologic diseases.

Methods: All incidents patients with JIA during 2000-2014 were collected from the nationwide register, maintained by the Social Insurance Institution of Finland (4). The National Population Registry identified three controls (similar regarding age, sex and residence) for each case. They were followed up together until 31st Dec 2015. ICD-10 codes of psychiatric diagnosis (F10-F99) were picked up from the Care Register for Health Care of the National Institute for Health and Welfare.

Results: During 28,941 follow-up years, 974 (23%) JIA patients were diagnosed with mental or behavioral disorders, whereas the number in the control group was 1,807 (15%), (p<0.001). Neurotic, stress-related and somatoform disorders (F40-48) and mood (affective) disorders (F30-39) were the most common psychiatric diagnoses in the JIA (10.41% and 8.18%) and in the control group (5.44% and 5.13%). The odds ratio for neurotic disorders (F40-48) was 2.02 (95% CI 1.78-2.29) and for mood disorders (F30-39) 1.65 (95% CI 1.44-1.89). Additionally, JIA was statistically significantly associated with behavioral and emotional disorders and disorders of psychological development (Table). Female patients with JIA had higher odds ratios than males for all mental and behavioral disorders except behavioral syndromes (F50-59), for which males with JIA had higher odds ratio.

Conclusion: The risk of psychiatric disorders in JIA patients is increased.

REFERENCES:


Disclosure of Interests: None declared
**Objectives:** To describe the age-related sonographic features of tendon insertions in the elbows and shoulders in healthy children.

**Methods:** A prospective cross-sectional study of 43 healthy volunteer children. Selection criteria: free of musculoskeletal symptoms, medical conditions or medication affecting the MSK system assessed by a paediatric rheumatologist. Exclusion criteria: history of trauma/surgery, family history of spondyloarthrits and more than three hours of physical activity the previous week of the evaluation. Children were grouped according to: age group 1 (3–9 years, n=22), group 2 (10–13 years, n=12) and group 3 (14–18 years, n=9).

The supraspinatus, common extensor, common flexor, and triceps tendon insertions were bilaterally examined in Power Doppler (PD) as well as grey-scale US using a GE Logic e machine with a linear transducer [8–13 MHz]. All entheses were evaluated in the longitudinal and transverse planes. Additionally, the corresponding joint was examined. Since there was no examination protocol available for scanning upper limbs entheses, a preferred US protocol for scanning children was used (1). Detailed description of entheses in grey-scale and Doppler modes was collected: echogenicity, thickness, presence of power Doppler signal (intra-entheseal at the bone/cartilage interface, peri-entheseal and within the unossified cartilage), as well as potential lesions (entheseophytes, erosions and calcifications). Measurement of tendon thickness was taken using US calipers at the site just where the tendon first contacts bone. All images were acquired by a single examiner (VM) and read by two readers. The interobserver reliability for the tendon thickness measurements and Doppler signal was estimated between the two readers.

**Results:** A total of 344 entheses were evaluated in 43 healthy children. Children had a median age of 9 years (IQR 6-13) and 55% were males. All the entheses appeared normal (homogenous fibrillar pattern) on grey-scale imaging. Mean tendon measurements are reported in Table 1. In group 1, Doppler signal was seen in: supraspinatus (intragrag) in one patient; common extensor (intra-entheseal) in 2 patients and triceps (intragrag) in 1 patient. In group 2, common extensor (intragrag) in 2 patients and common flexor in 2 patients (mtracartilage) showed PD. None of the patients in group 3 exhibit PD signal. Children did not show either potential lesions on entheses or joint synovitis at shoulders or elbows. The ICC for entheseal measurement demonstrated high concordance 0.92 (0.84-0.93).

**Abbreviations:** m: mean SD: standard deviation

**Conclusion:** Tendon echogenicity was similar in all ages. Entheses thickness has a linear relationship with age. Detection of entheses Doppler signals at the bone/cartilage interface is rare, but its detection in the insertion to unossified cartilage may be taken account as a physiological finding in upper healthy limbs in younger children.

**REFERENCES:**


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**OBJECTIVE:** To describe the age-related sonographic features of tendon insertions in the elbows and shoulders in healthy children.

**Background:** Enthesitis in children can result from mechanical or inflammatory processes. Enthesitis is a common finding in several JIA categories, particularly in ERA. Most of the available data on the potential application of ultrasound (US) for paediatric enthesis is currently focused on lower extremity with limited data in upper extremity entheses. To know how normal US findings of extremities by age are lead to early diagnosis and might avoid misinterpretations.