characterize limb movements and sleep architecture in a cohort of patients who underwent PSG and were coincidentally noted to have a diagnosis of AD.

Methods: Retrospective chart review over the past 10 years was performed in patients aged 1.5-17y who underwent polysomnography at Lurie Children's Hospital and were seen for AD within one year of PSG. Severity of AD was categorized as moderate (regular use of ≤class 5 steroids) v. mild. Patients with AHI >5 were excluded. Descriptive statistics were used to characterize the AD patients. AD patients with Limb Movements Index(LMI) > 15/hr were compared to a control group of age matched patients without AD but with LMI > 15/hr. This was done to determine whether arousal patterns related to limb movements was different in AD patients.

Results: Overall, 34 patients met criteria for inclusion, aged 6.4y±3.2 (μ±SD), 50%male, 4 moderate disease. The sleep architecture and efficiency were normal in this cohort of AD with mild disease. However, wake after sleep onset (46min±37.8), limb movement index (32.8 ± 13.9) and arousal indices (14.4 ± 7.5) were elevated compared to Scholle published normative values. Comparing AD with LMI>15/hr (n=7) to children without AD and LMI>15/hr (n=8), total LMI was similar in AD patient compared to controls (24.1 ± 5.8 v. 30.1 ± 9.4, p=0.06), although LMI during wake was greater in AD (118.1/hr±27.1 v 66.4 ± 26.7, p<0.05). LMI with arousals was almost half in AD v. controls (8.6/hr±3.0 v. 16.0/hr±6.8, p<0.01). In the 8 patients with AD who had ferritin measured, only 2 had values slightly below reference range, 20ng/mL in both.

Conclusion: Limb movements in AD occur in higher frequency during wake bouts than in non-AD patients with high nocturnal limb movements. Interestingly, despite our control group having a similar LMI, cortical arousals related to limb movements were much higher in non-AD patients. Further work is ongoing to determine the mechanism by which AD patients are having less cortical arousals related to limb movements as compared to non-AD patients with similar LMI.

Support (If Any):

0947

CLINICAL CHARACTERISTICS OF CHILDHOOD NARCOLEPSY FOLLOWING THE H1N1 PANDEMICS: PRELIMINARY DATA FROM THE PEDIATRIC WORKING GROUP OF THE SLEEP RESEARCH NETWORK

Simakajornboon N[1], Melendres C[2], Sheldon S[3], Super E[4], Naqvi K[5], Brockbank J[6], Beckerman R[7], Amin R[1], Lew J[8], Malow B[9], Marcus C[10], Mason A[10], Chervin R[11], Kheirandish-Gozal L[12], Mignot E[13]

[1]Cincinnati Children's Hospital Medical Center, Cincinnati, OH, [2]John Hopkins University, Baltimore, MD, [3]Lurie Children's Hospital of Chicago, Chicago, IL, [4]Oregon Health & Science University, Portland, OR, [5]Children's Medical Center of Dallas, Dallas, TX, [6]Children's Hospital of Richmond at VCU, Richmond, VA, [7]Children's Mercy Kansas City, Kansas City, MO, [8]Children's National Medical Center, Washington DC, DC, [9]Vanderbilt University Medical Center, Nashville, TN, [10]Children's Hospital of Philadelphia, Philadelphia, PA, [11]University of Michigan, Ann Arbor, MI, [12]University of Chicago, Chicago, IL, [13]Stanford University, Palo Alto, CA

Introduction: An increased incidence of narcolepsy in children and adolescents has been reported after the 2009 H1N1 pandemic in Europe and China. In addition, some studies have indicated different clinical characteristics in recent cases. However, no data have been reported from the United States.

Methods: The Pediatric Working Group of the Sleep Research Network (PED-SRN) has conducted a retrospective review with a prospective follow-up interview on Pediatric Narcolepsy since 2010. This multi-center collaborative project consists of 20 US pediatric sleep centers. One of the main objectives is to compare clinical characteristics between recent cases (2009-present) and conventional cases (prior to 2009). Subjects aged 0–18 years at the time of narcolepsy diagnosis from 2000–2015 were included. Secondary narcolepsy cases were excluded. The data were obtained from medical records with an additional interview from research coordinators. The study was approved by the IRB from each site, with informed consent when additional interview was needed.

Results: 652 subjects were enrolled into the study, and 648 completed records were analyzed, including 478 recent[R] and 170 conventional[C] cases. The age at EDS onset(9.6 ± 3.7[R] vs 9.8 ± 3.8[C]) and sex(male 51.5%[R] vs 50%[C]) were not different between the two groups. The proportion of African American patients was higher in recent cases(43.1%[R]vs 34.7%[C], P<0.05). Although cataplexy was higher in the conventional cases(65.5%[R] vs 77.1%[C], P<0.05), atypical cataplexy-(17.9%[R] vs 16.0%[C], P<0.05) and persistent frequent cataplexy after treatment(10.9%[R] vs 4.6%[C], P<0.05) were higher in the recent cases. Excessive weight gain(47.9%[R] vs 41.7%[C], P<0.05), sleep onset insomnia(84.1%[R] vs 80%[C], P<0.05), restless sleep(85.6%[R] vs 78.9%[C], P<0.05), and sleep walking(77.4%[R] vs 72.9%[C], P<0.05) were also higher in the recent cases. The presence of HLA-DQB1*0602 was not different between the two groups. The history of recent streptococcal infection(12.6%[R] vs 9.4% [C], P<0.05) and influenza infection(5.9%[R] vs 2.9%[C], P<0.05) were higher in the recent cases.

Conclusion: Conventional and recent cases of narcolepsy showed differences, with recent cases having a higher proportion of African Americans, higher rates of recent streptococcal and influenza infections, and more severe manifestation with higher rates of atypical cataplexy and persistent frequent cataplexy after treatment.

Support (If Any): IIR JazzPharmaceuticals and SRN

0948

IMPAIRED SLEEP-DEPENDENT CONSOLIDATION IN CHILDREN WITH NARCOLEPSY TYPE 1

Sauzeau J[1], Inocente C[1], Rey A[2], Lin J[3], Herbillon V[1], Mazza S[2], Franco P[4]

[1]Pediatric sleep Unit, ESEFNP, Mother and Children's Hospital, HCL and INSERM U-1028, CRNL, University of Lyon1, Lyon, France, University Lyon 1, FRANCE, [2]EMC lab, University Lyon 2, Lyon, France, University Lyon 2, FRANCE, [3]INSERM U1028, CRNL, University Lyon1, FRANCE, [4]University Lyon 1, Lyon, FRANCE

Introduction: Sleep plays a key role in memory consolidation, but its influence on learning has scarcely been studied in children affected by sleep disorders. The objective of this work was to evaluate the impact of narcolepsy (NC) on sleep-dependent memory consolidation processes.

Methods: We submitted 14 patients with NC (M_{age}=10.2 ± 0.4 SE, 7 males, total IQ = 125.5 ± 3.7) as well as a control group (CONT, M_{age}=9.8 ± 0.4, 7 males, total IQ =112.1 ± 2.5) matched for age, sex to three memory consolidation tests in the evening (learning session), before a night polysomnographic recording and in the morning (restitution session). These memory consolidation tests included declarative (visuo-spatial and emotional tasks) and procedural (mirror tracing task) learnings. Attention performances were measured before learning and restitution phases. The children also filled a questionnaire on excessive daytime sleepiness (EDS), hyperactivity, insomnia and depressive feelings. Parametric analyses t-student tests and Pearson analyses were done with Statistica® program.