

specific mutation was not clearly established. Our familial cohort proves beyond doubt that the T653i is a pathogenic mutation.

PO-0803 WITHDRAWN

PO-0804 COGNITION IN CHILDREN WITH ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD)

T. Rusishvili, S. Bakhtadze, N. Khachapuridze, N. Sebiskveradze, N. Geladze, N. Kapanadze. *Child Neurologist, Tbilisi State Medical University, Tbilisi, Georgia*

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Background Attention deficit hyperactivity disorder (ADHD) is the condition which occurs approximately in 5% of school aged children. The diagnostic tool which will help clinicians to make the precise diagnosis is still absent. Thus child neurologists as well as neuropsychiatrists attempt to seek alternate methods of diagnosis and treatment. The neurophysiologic approaches especially event-related potentials (ERPs) are mostly valuable from this point of view. The later response of ERPs (P3) reflects the most important parts of executive functioning frequently affected in ADHD children—the process of mental effortfulness to select the appropriate behaviour and decision making. Besides the diagnosis the treatment of ADHD is also the point of concern. In recent years EEG biofeedback (Neurofeedback _NF) have become the alternative treatment.

The aim of our study was assess the changes of EPRs after NF therapy.

Methods We have examined 14 patients with ADHDcom without any drug. Age range was 9–12 years. The children were divided into 2 subgroup: the first ADHDcom-1 (6 children) were children with NF treatment and the second subgroup of ADHDcom-2 (8 children) were non treated ones.

Results We have found the significant improvement of P3 in ADHD-1 compared with ADHD-2 while NF was non effective for earlier response like N1.

Conclusions NF can positively affect on the P3 which is very important in ADHD children as P3 reflects the speed of information processing as well as selection of appropriate action and decision making which are frequently impaired in ADHD children.

PO-0805 CONVERGENCE INSUFFICIENCY IN CHILDREN WITH ATTENTION DEFICIT HYPERACTIVITY DISORDER

A. Gomes, A. Barbosa. *Pediatrics, Federal Fluminense University, Rio de Janeiro, Brazil*

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Background and aims Near Point of Convergence (NPC) is used to diagnose Convergence Insufficiency (CI), and the existence of common symptoms between CI and Attention Deficit Hyperactivity Disorder (ADHD) has been suggested as an important aspect to be investigated. The aims of this study was to analyse NPC measurement in children with ADHD and the presence of common symptoms between ADHD and CI through the application of standardised questionnaires and to establish the percentage of individuals that scored questions in common between the ones applied.

Methods A transversal study was performed between June and September 2013, with students from 7 to 17 years old, with

previous diagnosis of ADHD in which NPC measure was realised and two previously validated questionnaires were applied: one for triage of CI-CISS symptoms and other for the diagnostic criteria to ADHD – MTA-SNP-IV. The data was analysed using SPSS v.20 software.

Results Seventy-five students were accepted on the study, 62 (82.7%) male and 13 (17.3%) female, with age of 11.24 ± 2.33 years old. Mean to NPC was 17.19 cm. NPC was altered in 85.3%. When NPC measure was >5 cm, both questionnaires were positive in 92% of students and 56% of scored questions in common between the two ones.

Conclusions This study indicates a high prevalence of CI in the population with ADHD, and shows an overlap of symptoms that were highlighted by comparing the questionnaires applied, suggesting the need to introduce the ocular muscles examination in children with diagnosed or suspected ADHD.

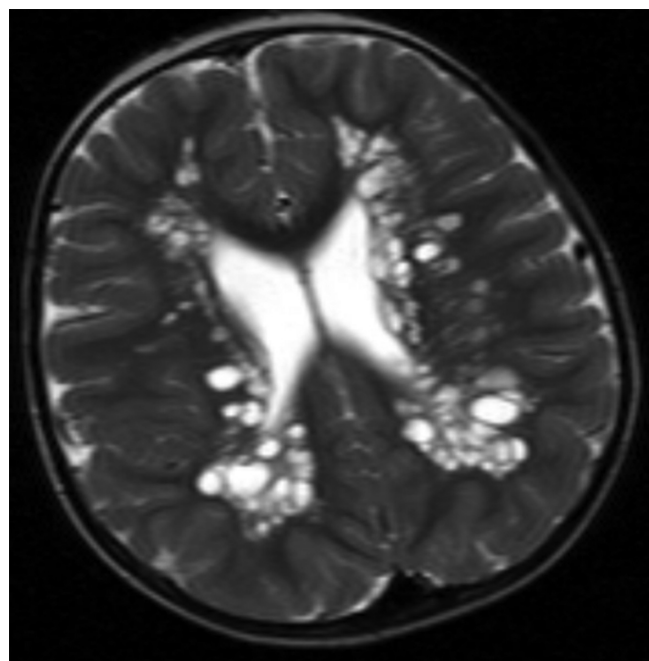
PO-0806 MULTI-CYSTIC WHITE MATTER ENLARGED VIRCHOW ROBIN SPACES IN A 5-YEAR-OLD BOY

¹E. Bayram, ¹Y. Topcu, ²H. Cakmakci, ¹O. Giray, ¹D. Ercal, ¹S. Hiz. ¹*Pediatrics, Dokuz Eylul University Hospital, Izmir, Turkey;* ²*Radiology, Dokuz Eylul University Hospital, Izmir, Turkey*

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Virchow–Robin spaces (VRS) are perivascular, pial-lined areas in the brain that surrounds small arteries and can be seen on brain magnetic resonance imaging. VRS are typically less than 5 mm in diameter and accepted as normal anatomical structures. VRS are usually asymptomatic, but if there is an expansion to the brain parenchyma, various clinical symptoms can be seen associated with the mass effect.

A 5-year-old boy presented with a complaint of developmental delay. He had relative macrocephaly, hair with a double crown, and clinodactyly of the middle phalanx of both the fifth fingers. He had dysmorphic facial features, including triangular



Abstract PO-0806 Figure 1

face, frontal bossing, and low-set protruding ears. His neurologic examination revealed normal muscular tonus and normal deep tendon reflexes with clumsy gait. Metabolic screening tests, including tandem mass, urine organic acids, plasma, and urine amino acid profiles were also normal. The patient underwent MRI of the brain as a firstline investigation, and T2 images demonstrated an extensive involvement of the hemispheric, subcortical white matter with a cerebrospinal fluid intensity signal change suggestive of multilocular giant VRS. MR spectroscopy showed no significant signal peak. The karyotype analysis of the patient was 46 XY, and FISH for Angelman syndrome also revealed a normal result. In the 2-year follow-up, the patient showed no neuromotor deterioration and radiological progression.

In conclusion, VRS must be differentiated from other cystic lesions of the brain. Phenotypic characteristics of our patient were not compatible with the previously defined syndromes.

PO-0807 LONG TERM NEURODEVELOPMENTAL OUTCOME OF PRETERM INFANTS WITH PERIVENTRICULAR-INTRAVENTRICULAR HAEMORRHAGE

E Bayram, M Torun Bayram, Y Topcu, S Hiz. *Pediatrics, Dokuz Eylul University Hospital, Izmir, Turkey*

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Background and aims To determine the neurodevelopmental morbidity of preterm infants with periventricular intraventricular haemorrhage, at the age of 4.

Methods The patients at the age of 4 were evaluated through neurologic examination and motor assessment by a paediatric neurologist and Denver II Developmental Screening Test by a psychologist. The results were compared with Denver II Developmental Screening Test results which had been made at 3–6 and 6–12 months.

Results The total study population consisted of 66 prematurely born children of less than 37 gestational age. When the cases with PVH-IVH were graded with the cranial neuroimaging findings, 62,1% were documented as grade I haemorrhage, 18% as grade II, 6% as grade III and 13.9% as grade IV. Patients with grade III-IV Periventricular Intraventricular Haemorrhage had significantly lower Denver II Developmental Screening Test results at the age of 4, compared with grade I-II Periventricular-Intraventricular Haemorrhage group. Similarly, ≤ 32 weeks patients had significantly lower Denver II Developmental Screening Test at the age of 4 when compared with >32 weeks patients.

Conclusions Children who were born ≤ 32 gestational weeks and/or patients with grade III-IV periventricular-intraventricular Haemorrhage have an increased risk of neurologic impairment. All premature infants should be evaluated by Denver II Developmental Screening Test in early childhood period of life.

PO-0808 THE AFFECT OF APOE GENE POLYMORPHISM ON NEURO-COGNITIVE FUNCTIONS IN CHILDREN WITH CONGENITAL HEART DISEASE

¹T Bedir Demirdag, ¹K Gucuyener, ¹AS Soysal, ²NS Guntekin, ¹Z Ozturk. ¹*Pediatrics, Gazi University Faculty of Medicine, Ankara, Turkey;* ²*Genetics, Gazi University Faculty of Medicine, Ankara, Turkey*

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Research conducted on children with CHD displays that these children's neurological development is different than the normal population and focuses on the reasons of this difference. Currently, the factor that attains the highest emphasis is the Apo E genotype of the patients. We aimed at revealing the influence of Apo E gene on the neurological development process of children with CHD. Our goal is, predicting the neurological development of children with CHD according to Apo E gene expression, and anchoring the children requiring support, at an earlier stage. We investigated 188 children patients with CHD, in GUTF paediatric cardiology department, between 2009–2013. We documented the socio-demographic parameters. After physical examinations followed by psychometric tests, we examined Apo E genotype on blood samples of the children. Cyanotic patients' motor functions were worse than acyanotic patients ($p < 0,05$). Patients with VSD got higher points from the WISC-R total IQ, compared to the patients who do not have SD. The other psychometric tests on the children did not display any further difference. 78.7% of the patients who were involved in our research classify as E3/E3. Sociocultural and economic status of parents was positively associated with psychometric test results ($p < 0,05$).

Relevant literature claim that children with CHD display worse neurocognitive functioning compared to normal population, and having Apo E2 allele is a risk factor for it. Apo E4 allele is more related to better psychometric test.

Results However, our results display no influence of ApoE gene on the neurocognitive functioning.

PO-0809 SOCIAL COMMUNICATION QUESTIONNAIRE FACTOR STRUCTURE FOR PRIMARY SCHOOL CHILDREN WITH DEVELOPMENTAL DISORDERS SCREENED AS PART OF AN AUTISM PREVALENCE STUDY

AM Boilson, A Staines, MR Sweeney. *Nursing & Human Sciences, Dublin City University, Co. Dublin, Ireland*

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Background and aims Explore the factor structure of the Social Communication Questionnaire (SCQ: Rutter *et al.*, 2003) for primary school children 6–11 years, 7951 screened as part of an autism prevalence study identified with diagnosed developmental disorders including Autism Spectrum Disorders (ASDs).

Methods The SCQ is a 40-item parent report questionnaire that asks about characteristic autistic behaviour. It is based on the Autism Diagnostic Interview – Revised (ADI-R: Lord *et al.*, 1994) recommended cut off score for ASDs (>15). Sixty nine percent 5457 of parents completed the SCQ, 7% 411 were identified (males 294, 71%) with parent reported diagnosed developmental disorders: Speech and language 227, 55%; ADHD 64, 16%; ASDs 58, 14%; Dyspraxia 49, 12%; Downs Syndrome 8, 2% other diagnosis 5, 1%.

Results The optimal SCQ cut off score for differentiating ASDs from other developmental disorders was (>13) sensitivity 0.89, specificity 0.81, PPV 0.43, NPV 0.98. Principal Components Analysis revealed 4 factors explaining 49% of the total variance. First factor, 32%: 7 of 10 items, Reciprocal Social Interaction (RSI) ADI-R domain. Second factor 9%, 6 of 8 Restricted Repetitive Stereotyped Behaviour (RRSB) domains third and fourth factors each explaining 4% variation. Four of 6 item's on the third factor (RSI) domain, 4 of 5 on the fourth ADI-R Communication domain.