

**Aim** Cognitive impairment is seen in patients with paediatric multiple sclerosis in more than 30% of cases. Altered functions with variable frequency are: attention, language (receptive, verbal fluency, naming), visual-spatial and motor functions, spatial memory, executive functions and abstract reasoning. The aim of this study is to determinate the cognitive functions disorders in children with multiple sclerosis.

**Methods** A total of 21 individuals with paediatric MS (19 girls, 2 boys), ranging from 10–17 years of age ( $SD=14.90 \pm 186$ ) completed initial and follow-up neuropsychological testing at yearly interval. All the patients were given WISC-R, Raven's Standard Progressive Matrices, Wisconsin Card Sorting, Stroop Test, Line Orientation Test and Verbal Fluency

**Results** 55% of the patients had Interferon therapy, First attack age was  $12.92 \pm 2.36$ , total number of attacks was  $2.68 \pm 2.19$ . IQ assessment was as follows: 19.1% ( $n = 4$ ) borderline, 47.6% ( $n = 10$ ) average, 33.4% ( $n = 7$ ) high average. After interferon therapy; patients showed increased reponse time with less mistakes in Stroop test ( $p < 0.05$ ), there was an increase of vocabulary scores in Verbal Fluency Test, being is still behind the scores of normal children. Visual-spatial perception impairments became evident right after the attacks. Symptoms of depression have been found in the 25% of the patients. There is a correlation ( $r: 0.82$ ) between number of attacks, cognitive loss, and depression.

**Conclusion** Cognitive impairment has a negative impact on patient's life limiting social, academic activities. Early treatment with disease-modifying drugs seems to be advisable in order to prevent or delay the development of cognitive impairment.

#### PO-0837 EFFICACY AND SIDE EFFECTS OF AZATHIOPRINE AND ASPIRIN IN CHILDHOOD PRIMARY ARTERIAL STROKE

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**Objectives** To describe cohort of children with childhood Primary Angiitis of Central Nervous System (cPACNS); report their neurological outcome; evaluate efficacy and safety of used therapies.

**Study design** Observational Cohort Study.

**Settings** Tertiary Care Children Hospital at Pakistan.

**Methods** The study included patients presented with acute ischaemic strokes (AIS) to Department of Neurosciences at Children's Hospital, Lahor, Pakistan over 2 years (January 2009–December 2010). Their age  $\leq 16$  years; admitted within 14 days of symptoms onset and they were subjected to through history taking; complete physical examination; laboratory and neuroimaging evaluation. They received pulses of intravenous Steroids and/or Immunoglobulin and Anticoagulant for 4 week followed by maintenance therapy with Azathioprine and low dose Aspirin for 24 months.

**Results** Sixty Eight patients were included, 42 (62.76%) boys and 26 (38.23%) girls, mean age was  $8.5 \pm 3.5$  years. Presenting symptoms and signs were; fever (20%), headache (64%), disturbed consciousness (30%), seizures 55%, hemiparesis (60%), and motor deficit (70%). Neuroimaging studies revealed: ischaemic strokes in 50 (73.5%), haemorrhagic strokes in 10 (14.7%) and ischaemic-haemorrhagic lesions in 8 (11.8%). Male sex, deep coma and raised intracranial pressure were poor prognostic signs. Outcome revealed; 12 deaths (17.64%), 11 normal

(16.17%), 14 (20.59%) had minor disabilities, 11 (16.17%) with moderate disabilities and 20 (29.41%) had severe disabilities.

**Conclusions** Characteristic features of cPACNS on presentation may predict progression and outcome; identify high-risk patients; and guide selection of patients for immunosuppressive therapy. Further studies are required to substantiate our findings regarding immunosuppressive therapy for such patients.

#### PO-0838 WITHDRAWN

#### PO-0839 CAPNOGRAPHY IN PATIENTS WITH SEVERE NEUROLOGICAL IMPAIRMENT

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**Background** Respiratory disease is a common reason for hospitalisation and mortality in persons with severe intellectual and developmental disability. Assessment of acute respiratory decompensation and differentiating it from chronic pathology is a frequently encountered challenge. Partial pressure of CO<sub>2</sub> is commonly used as an aid in this setting.

**Aim** To evaluate baseline end tidal CO<sub>2</sub> (EtCO<sub>2</sub>) levels using non-invasive side stream capnometry and to identify factors correlated with higher capnometry readings in this patient population.

**Methods** This was a prospective, case controlled, cross sectional study to assess differences of baseline EtCO<sub>2</sub> values between neurologically impaired patients and healthy individuals. Patient's demographic and clinical data were recorded. Variables correlating with higher EtCO<sub>2</sub> readings and those that may predict clinically meaningful difference among neurologically impaired patients were evaluated.

**Results** Seventy eight patients and 53 healthy individuals were included. The mean ( $\pm SD$ ) EtCO<sub>2</sub> values were higher for neurologically impaired patients as compared to healthy individuals ( $39.14 \pm 3.59$  and  $37.11 \pm 1.88$  mmHg respectively;  $p < 0.0001$ ), and highest among patients using antipsychotic medications ( $41.53 \pm 5.257$  mmHg). Kyphoscoliosis and the use of antipsychotic drugs were the major factors to increase EtCO<sub>2</sub> levels.

**Conclusion** Knowing the patient's baseline EtCO<sub>2</sub> value, as well as baseline oximetry, could guide treatment decisions, when assessing the patient's oxygenation and ventilation during acute respiratory illness. Future research can shed light on the utility of capnometry and clinical implications of higher baseline EtCO<sub>2</sub> values among neurologically impaired patients.

#### PO-0840 PARENT-REPORTED PAIN IN NON-VERBAL CHILDREN AND ADOLESCENTS WITH CEREBRAL PALSY

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**Background and aims** This study aimed to (i) determine the prevalence of parent-reported pain among non-verbal children with cerebral palsy (CP), (ii) determine the frequency and