Child neurology 2

PP3035

Rare presentation of subacute sclerosing panencephalitis: an acute fulminating course

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Introduction: Subacute sclerosing panencephalitis (SSPE) is a progressive disease characterized by mental-neurological deterioration and myoclonus, occurring after years of measles infection. We present an atypical SSPE case, started with acute confusion and showed unusual radiological features.

Case: A 10-year-old previously healthy girl admitted with headache and constant sleepiness for a week. She had a history of measles infection by the age of nine months. She was lethargic and plantar reflexes were bilaterally indifferent. Systemic examination and biochemical evaluation were not remarkable. Brain magnetic resonance imaging (MRI) showed hyperintense lesions extending from brain stem into the cerebellar white matter. Cerebrospinal fluid examination showed 41mg/dl of protein, 57mg/dl of glucose (plasma glucose:117mg/dl), positive oligoclonal bands and IgG index >0.7. Her electroencephalography revealed disorganized background and generalized slow waves. CSF measles antibody titers were strongly positive. Intravenous (IV) methylprednisolone was given for 5 days. Because of no significant clinical response the treatment was switched to IV immunoglobuline. Following MRI showed extention of previous lesions. On the 4th week of presentation myoclonus began, the patient developed sudden cardiac arrest and died.

Conclusion: Acute fulminant course and involvement of brainstem and cerebellum is rare in SSPE. Differential diagnosis may be difficult from acute confusional states. Measles serology may be useful in the management.

Disclosure: Nothing to disclose

PP3036

Risk factors for epilepsy in children in the Republic of Moldova

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Introduction: The goal of this study was to identify the major risk factors for epilepsy in children with epilepsy in the Republic of Moldova.

Methods: A total of 108 cases, in children aged 1-36 months were followed for epilepsy at the Pediatric Neurology Department during 2009-2012 and a control group of 108 children were included in the study. The most important examined risk factors examined were perinatal encephalopathy, febrile seizures, family history of epilepsy, arterial hypertension during pregnancy, head trauma, central nervous system infections. Data were obtained through a questionnaire, via personal interviews and the medical records and were assessed using univariate and multivariate analysis.

Results: We observed an increased risk for epilepsy in children with severe neonatal encephalopathy (OR 28.95, 95% CI 3.8319 - 218.7607), CNS infection (OR 22.84, 95%CI 2.9986 - 174.0101), severe head injury (OR 20.36 , 95% CI 2.1254 - 163.0101), presence of maternal hypertension during pregnancy (OR 13.56, 95%CI 3.1011 - 9.2773), with a history of atypical febrile seizure (OR 11.31, 95% CI 2.5652 - 49.9060), history of epilepsy in first, second or third-degree relatives (OR 6.54, 95%CI 1.9930 - 265436).

Conclusions: The most important risk factors for epilepsy identified in this study were perinatal encephalopathy, history of atypical febrile seizures, severe head injury, CNS infection. Other identified important risk factors were a history of epilepsy in the family and maternal hypertension during pregnancy.

Disclosure: Nothing to disclose
PP3037

Cavernoma-related epilepsy in children – Questions regarding its approach and follow-up

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Introduction: The estimated incidence of cerebral cavernomas in children is 0.37-0.53, slightly inferior to adults. Epileptic seizures are the most frequent presentation and recurrence risk is high.

Results: Three previously healthy male children, aged 4-9-years-old, without family history of epilepsy or cerebral cavernomas. Admitted for a first focal epileptic seizure, single in two cases, recurrent in the other. Neurological examination was normal. Brain MRI showed a large isolated supratentorial cerebral cavernoma, with the following locations: right medial frontal-basal, left cortical parietal-occipital and right cortical-subcortical precentral, two with recent haemorrhage. They were started on antiepileptic drugs (AED) and underwent surgical resection 1-3 months after diagnosis. Afterwards, there were no deficits in the neurological or cognitive evaluations and maintained seizure freedom. In all cases, subsequent brain MRIs didn't show lesion regrowth or new lesions. The children with right frontal-basal cavernoma and left parietal-occipital cavernoma have a seizure-free follow-up of 7.5 years, the first currently without AED for 2 years and the second under discontinuation. The child with right precentral cavernoma has a seizure-free follow-up of 3.3 years, maintaining AED.

Conclusions: In the published series, the proportion of patients with cavernoma-related epilepsy who remain seizure-free after surgery is high. However, cavernomas are not static lesions. The three aforementioned children had a favourable outcome, without new lesions or seizure reoccurrence. In children, for whom long-term cognitive effects of AED are particularly significant, the fundamental question is identifying predictors of good clinical outcome in these lesions, to support decisions regarding AED discontinuation.

Disclosure: Nothing to disclose

PP3038

An adult Joubert syndrome case originated from Western Anatolia

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Introduction: Joubert syndrome (JS) is a rare autosomal recessive disorder characterized with cerebellar vermis hypogenesis with molar tooth malformation. Discussion of poorly known features of cerebellum is aimed with this presentation related with an adult JS case.

Case: A 54-year-old woman was admitted to our outpatient clinic with forgetfulness complaint. She was cooperating and oriented but she had puerile behaviour pattern and she was answering the questions “peripherally”. The left hand had self mutilation scars on both forearms and had a replacement eye on right. Pes cavus was observed, more prominent at the right side. She had retinitis pigmentosa in left eye and had a oculomotor dysmetry. No pathologic reflex was obtained and locomotor system evaluation was normal except a moderate dysdiadokinesia in cerebellar tests. Cranial MRI revealed cerebellar cortex dysgenesis and cerebellar vermis agenesis with molar tooth malformation and were considered as consistent of an adult JS.

Conclusions: Identification and recognition of defective cerebellar developmental pathology may enlighten the poorly known functions of this ‘mysterious structure’ and its reflections to the human behaviour.

Disclosure: Nothing to disclose
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PP3039

The role of ciliary neurotrophic factor (CNTF) in the treatment of specific developmental motor disorders in infants

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Introduction: In light of current research data we assessed the role of CNTF in the treatment of specific developmental motor disorders in infants.

Methods: Forty-nine infants aged between 1 and 12 months presenting specific developmental motor disorders of different degree of severity (study group) and 15 healthy children were investigated. The study group patients were administered CNTF medication (Italian company- Guna). We assessed serum levels of CNTF before and after treatment using the immunoenzymatic method.

Results: Our results are in line with research data and suggest a relationship between the serum concentration of CNTF and motor disorders in infants. We observed significantly lower serum levels of CNTF in patients with severe motility abnormalities in comparison to the control group (p<0.05), but the difference between control group and infants with mild disorders hasn’t reached the significance level. Moreover, we observed a significant increase of the serum concentration of CNTF in the study group after the treatment, but it remained lower in comparison to the control group.

Conclusions: Our results suggest a relationship between the serum level of CNTF and the severity of the motor disorders in infants. Furthermore, our results show an augmentation of serum levels of CNTF after the administration of the CNTF medication. We suggest that CNTF has an important role in the survival of the motor neurons and the maintenance of the muscle fibers trophicity in infants with neurological problems. Further studies should investigate clinical aspects and prevention effects of neurotrophic factors in cerebral palsy.

Disclosure: Nothing to disclose

PP3040

Structure and clinical features of 56 children with developmental and benign movement disorders

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Introduction: Developmental and Benign Movement Disorders (DBMD) are characterized by the absence of associated neurological manifestations and by their favorable outcome. We analyzed structure and clinical features of DBMD cases among children evaluated in Tashkent Children Medical Consulting Diagnostic Centre.

Methods: Children up to 10 years with normal neurologic and psychomotor development were recruited from our center. Neurological examination, detailed history taking, video monitoring were performed. We excluded children with abnormal interictal or ictal EEG, abnormal MRI findings.

Results: 56 patients (32 male) were diagnosed with DBMD. The median age of admission was 16 months. 32 cases (57%) started within the first year of age. The diagnosis showed a wide spectrum of DBMD including stereotypic movements 12/56 (21.4%); benign myoclonus of early infancy 7/56 (12.5%); sleep-related rhythmic movement disorders 6/56 (10.7%); benign neonatal sleep myoclonus 6/56 (10.7%); benign jitteriness of newborns 5/56 (9%); gratification behavior in early childhood 5/56 (9%); Sandifer’s syndrome 4/56 (7.1%), transient dystonia of infancy 3/56 (5.4%); benign paroxysmal torticollis 3/56 (5.4%); mirror movements 1/56 (1.8%), shuddering attacks 2/56 (3.6%); spasmus nutans 1/56 (1.8%); paroxysmal tonic upgaze 1/56 (1.8%).

Conclusions: Predominance of stereotypies (21.4%) and benign myoclonus of early infancy (12.5%) were revealed in structure of DBMD. Recognition of DBMD depends from careful neurological examination, detailed history taking, and video EEG recordings. The differential diagnosis of DBMD from epileptic seizures is crucial for correct management of DBMD, to avoid unnecessary concern and costly investigations.

Disclosure: Nothing to disclose
PP3041

Early postoperative neurological complications in patients with congenital heart disease

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Introduction: Identify a variety of neurological complications in patients with CHD in the early postoperative period.

Methods: We studied 53 (100%) children operated in the research center in the department of surgery for congenital heart defects. Children surveyed were between the ages of 3 to 5 years. Of these, 23 (43%) of girls and 30 (57%) boys. In the early postoperative period, all children underwent a thorough neurological examination.

Results: The most significant group consisted of patients with cerebral hypoxia, due to the long artificial circulation (AC) -15 (28%) cases. In 2 (3.7%) patients with fatal intraoperative brain damage (after the accident during AC) had complete areflexia, quadriplegia, no pupil reaction to light, EEG straight line. All the patients died during the period from 16 hours to 2 days. Paresis (no movements in the limbs of varying severity) - 4 (7.5%) cases. Violations by the peripheral nervous system was observed in 12 (22.6%) patients: Horner’s syndrome - 7 cases, the peroneal nerve neuropathy - 3 cases; hypoglossal nerve damage - 2 cases. Expressed vegetative symptoms (tachycardia, sweating, hypertension) 12 (22.6%) cases. Long term awakening after anesthesia - 8 (15%) cases.

Conclusions: The frequency of CNS complications give rise to social and economic consequences, which if severe can negate the success of operations.

Disclosure: Nothing to disclose

PP3042

Transcranial direct current stimulation in the treatment of attention deficit hyperactivity disorder (ADHD) in children aged 7-12-years

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Introduction: ADHD is a prevalent neurodevelopmental disorder. Pharmacological treatment of ADHD may be associated with a range of serious adverse effects (seizures, psychotic symptoms, cardioiovascular events), so non-pharmacological treatment without adverse effects is needed to develop. Transcranial direct current stimulation (tDCS) is a non-invasive technique for brain stimulation and it increasingly being used in the treatments of some neurological disorders.

Methods: With tDCS, cortical neurons excitability increases in the vicinity of the anodal electrode and suppressed near the cathodal electrode. There is EEG and neuropsychological evidence that ADHD is associated with hyperactivity in right and left dorsolateral prefrontal cortex (DLPFC), in right and left frontal cortex (FC), in left anterior temporal region (ATR). tDCS has a potential in facilitating inter- and intra-hemispheric balance.

Results: We investigated the efficacy of the method tDCS by proof assay and by EEG processed by method of transitional probabilities one EEG wave by another on the symptoms of ADHD comparing the data before and after the treatment. 70 children with ADHD were included in this study. All subjects completed the tDCS for 25-30 min/day 2-3 times a week for 2.5 weeks. A tDCS protocol is proposed applying anode electrodes over the most problem zones of the brain (right FC, right DLPFC, left ATR).

Conclusions: By treated of such tDCS protocol alleviated the symptoms of ADHD and improved executive functions and general condition in children with ADHD for a long period of time (6-18 month) without any adverse effects (in catamnensis data).

Disclosure: Nothing to disclose
PP3043

Seizures in hemorrhagic stroke of young children

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Introduction: One of the features of childhood stroke in general, is manifest vascular accident as seizures. According to some authors, patients with hemorrhagic stroke are dominantly boys, although no explanation for this fact.

Methods: We analyzed 150 children 89 (59.3%) boys and 61 (40.7%) girls who had a stroke at an early age. Hemorrhagic stroke was 90 (60%), which 65 of them (72%) children experienced seizures.

Results: Age when there was a hemorrhagic stroke: 0-29 days-40%, 30 days-3 months to 45%, from 3-6 months-4.6%, from 6-12 months-7.5%, from 12 months - 3 years -2.9%. The main causes of hemorrhagic stroke: DIC -44%, a combination of viral infection with DIC -20%, viral infection, 12%, CNS malformation 9%, traumatic birth-9%, blood diseases-6%. When analyzing children convulsions were observed during the acute period of hemorrhagic stroke was 39 (60%), which have led to 45% of symptomatic epilepsy. Earlier onset of seizures peaks within 24 hours after stroke 30 (46%), late onset of seizures peaks in the 6-7 years-14 (21.5%).

Conclusions: It can be concluded that the severity of the neurological deficit, seizure type, localization of epileptic focus affect the overall outcome of stroke. Development of symptomatic epilepsy creates additional complexity and reduces stroke rehabilitation potential patient that affects the timing of treatment.

Disclosure: Nothing to disclose

PP3044

Headache in Russian adolescents: frequency, structure according to the international classification of headache disorders – 2nd edition (ICHD-II) criteria, and age-gender differences

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Introduction: Data regarding the headache frequency and structure according to ICHD-II in Russian adolescents are very limited and have been never published in international medical journals as reported by PubMed searching.

Methods: 1012 urban Siberian (Krasnoyarsk, Russia) adolescents aged 12-18 years were asked about headache frequency and 267 randomly selected adolescents were examined by specially trained neurologist to diagnose the headache subtypes (12 month prevalence). Based on ICHD-II criteria, a classification of migraine and tension-type headache (TTH, including the subtypes “infrequent episodic TTH, frequent episodic TTH, chronic TTH”) were given. Yates-corrected chi-square test was used.

Results: Headache frequency was higher in girls, than in boys (Table 1).

Table 1: Headache frequency and gender related differences in Russian adolescents (in %, n=1012)

<table>
<thead>
<tr>
<th>QUESTION</th>
<th>ANSWER</th>
<th>Never</th>
<th>&lt; 10 times</th>
<th>&gt; 10 times</th>
</tr>
</thead>
<tbody>
<tr>
<td>How many times did you experience a headache in the past year?</td>
<td>Male</td>
<td>26.5</td>
<td>14.1</td>
<td>56.0</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>56.0</td>
<td>56.0</td>
<td>16.9</td>
</tr>
<tr>
<td>Over the past 3 months, how many days per month did you experience a headache?</td>
<td>Male</td>
<td>77.1</td>
<td>63.4</td>
<td>21.2</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>33.6</td>
<td>1.8</td>
<td>3.0</td>
</tr>
</tbody>
</table>

* – male-female p<0.05

According ICHD-II criteria one or more types of headache were diagnosed in 75.3% (201/267) adolescents: TTH in 43.8% (infrequent episodic TTH - 36 %, frequent episodic TTH - 5.2%, chronic TTH - 2.6%), migraine in 13.5% (without aura - 8.6%, with aura - 4.9%). Mixed type of headache (in subjects fulfilling the diagnostic criteria for both probable migraine and probable TTH) was diagnosed in 16.1%, secondary headaches (mainly post-traumatic) - in 1.9%. The age related differences have been found for migraine only (9.3 % in 12-14 age vs. 22.0% in 15-18 age, p=0.009). No gender related differences have been found in the ICHD-II diagnosed headache prevalence (including migraine), probably, because of low statistical power.

Conclusions: Headache is high in Russian adolescents and its structure has no principal differences between previously reported worldwide data.

Disclosure: Nothing to disclose
PP3045

Intermittent diazepam versus continuous phenobarbital to prevent recurrence of febrile seizures: a randomized controlled trial

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PP3046

Neurobehavioral performance in novel object recognition test in mice which were exposed during whole gestation to different doses of valproic acid

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PP3047

Role of oral myorelaxants in complex therapy of children with cerebral palsy

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PP3048

Pseudotumor cerebri revealing aldosterone-producing adrenal adenoma

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PP3049

New diagnostic technology in the prediction and evaluation of effective treatment of newborns with hypoxic brain lesions

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