Neuro-ophthalmology/-otology

PP3243

Superficial siderosis: important consideration in differential diagnosis of syringomyelia

H. Ahmad, A. Bronstein
Imperial College London, London, United Kingdom

Introduction: Superficial siderosis is a rare condition secondary to recurrent haemorrhage in the subarachnoid space leading to haemosiderin deposition in the subpial layers of the brain and spinal cord. Patients typically present with a combination of sensorineural hearing loss, pyramidal signs and ataxia with a proportion developing bilateral vestibular failure. Syringomyelia can also present with hearing loss, ataxia and spasticity.

Methods: A 46-year-old gentleman presented aged 14 with a few months history of muscle wasting, weakness of his left hand and loss of pain sensation affecting his left forearm. MRI confirmed syringomyelia (C1-T7) and subsequently underwent urgent foramen magnum decompression. Six years later he developed progressive bilateral hearing impairment, tinnitus and imbalance, presumed to be secondary to the syrinx. On examination, he was dysarthric with saccadic hypermetria and positive head impulse to the left. He had left claw hand deformity, dissociated sensory loss affecting upper limbs, absent reflexes left upper limb, pyramidal signs in left lower limb with bilateral limb dysmetria, intention tremor and broad based, ataxic gait.

Results: Audiometry confirmed bilateral sensorineural hearing loss and caloric tests showed left vestibular hypofunction. MRI showed residual syrinx cavity and, additionally, revealed marked siderosis with extensive leptomeningeal deposition outlining the bilateral frontal lobes, cerebellum, brainstem and cervicomедullary junction.

Conclusions: We describe a case of syringomyelia with likely post-surgical complication of siderosis, then likely responsible for the audio-vestibular and neurological progression. This case highlights the importance of considering superficial siderosis in the differential diagnosis of syringomyelia.

Disclosure: Nothing to disclose

PP3244

Dizziness in out-patients and efficient otoneurological examination brief scale

N. Bestuzheva, L. Antonenko, M. Zamergrad, V. Parfenov
Clinic of Nervous Diseases, I.M. Sechenov First Moscow State Medical University, Moscow, Russian Federation

Introduction: 80 patients with dizziness complaints, treated in out-patients department of clinic of Nervous Diseases at I.M. Sechenov First Moscow State Medical University.

Methods: The survey was conducted according to the otoneurological examination brief scale. It included otoneurological tests, collecting of complaints & medical histories. We assessed spontaneous nystagmus, end-position nystagmus, visual saccades, pure tracking eye movements, position of the sample Dix-Hallpike & McClure-Pagnini; Unterberger & Romberg trials; performed orthostatic hypotension, hyperventilation, coordination tests; evaluated emotional status according to the hospital anxiety & depression scale.

Results: Only 11 out-patients had correct diagnosis before addressing to our clinic. None of them underwent any specific treatment. Benign paroxysmal positional vertigo (BPPV) is the most common cause of dizziness (40 patients); anxiety-depressive disorder without agoraphobia is the second (17 patients); the third is cerebrovascular disease (8 patients). The other diagnoses are: Ménière’s disease (4 patients); vestibular neuritis (4); depression (3); migraine-associated vertigo (2); orthostatic hypotension (2). A brief otoneurological examination allowed to diagnose correctly (82% of cases). Applied therapy helped significantly (63 patients; 79%); reduced the frequency of dizziness attacks (23; 29%) & cured completely (40; 50%). Only 18% required additional methods of inspection or hospitalization. BPPV, being the most common cause of dizziness in out-patients, was exclusively clinical & had an effective treatment. Conducting otoneurological examination allowed to diagnose correctly (82% of cases). Applied therapy helped significantly (63 patients; 79%); reduced the frequency of dizziness attacks (23; 29%) & cured completely (40; 50%). Only 18% required additional methods of inspection or hospitalization.

Conclusions: We recommend to perform such surveys in every patient with dizziness complaints. It improves the quality of treatment & reduce the costs.

Disclosure: Nothing to disclose
**PP3245**  
**Recurrent attacks of unilateral fully reversible monocular visual loss: two cases of retinal migraine**  
*M. Boulanger, J. Cogez, E. Touzé*  
*Neurology, CHU Cote de Nacre, Caen, France*  

**Introduction:** Transient monocular visual loss (TMVL) reflects a heterogeneous group of ophthalmologic or neurologic disorders. Among the most important causes to rule out are emboli and anterior ischemic optic neuropathy. However, it could also be due to a rare and poorly understood migraine variant. We report two cases of TMVL.

**Methods:** A 23-year-old man with history of 2 attacks of migraine with conventional visual aura (hemianopsic scotomata) presented with ten fully reversible attacks of left TMLV which were preceded by scintillating scotomata spreading gradually over few minutes lasting 10-15 minutes over 3 years. A 30-year-old woman with no medical history experienced 11 attacks of TMLV, lasting from 2 to 6 minutes over 2 years. Neither had headache during or following attacks and had normal neurological and ophthalmologic examination. All investigations particularly brain MRI and arterial investigations were normal. The woman was treated by Metoprolol 200mg daily, which reduced the attacks by 50%.

**Results:** These two patients meet the International Headache Society’s criteria for retinal migraine except for the lack of headaches. However in our cases no other diagnosis was consistent. Clinical presentation of retinal migraine is variable and can associate negative and positive symptoms such as TMLV or monocular scintillating scotomatas. The pathophysiology is thought to be a spreading depression in the retina. A preventive treatment like Beta-blockers can be used to reduce the frequency of the attacks, although data is very limited.

**Conclusions:** Retinal migraine remains a diagnosis of exclusion but must be considered in case of transient monocular visual disturbances.

**Disclosure:** Nothing to disclose

---

**PP3246**  
**The correlation of nitric oxide synthesis and visual evoked potential in ophthalmic migraine patients**  
*A.E.I. Bulboaca, C.A.I. Bulboaca*  
*Neurology, University of Medicine and Pharmacy ’Iuliu Hatieganu’, Cluj-Napoca, Romania*  

**Introduction:** A migraine attack has a complex pathophysiological mechanism associated with changing of blood flow and function in several brain regions. Some chemical mediators, as is nitric oxide (NO), may play an important role in blood flow changes due to vasodilatation effect. The objective of this paper is to study the correlation between visual evoked potential (VEP) and plasma nitric oxide concentration due to migraine attack in ophthalmic migraine patients.

**Methods:** We compared 35 healthy volunteers with 56 patients with ophthalmic migraine. Other cerebral diseases were excluded by clinical neurological examination and MRI examination. Other ophthalmologic pathology was excluded by ophthalmological examination. The clinical evaluation of migraine severity was performed by migraine disability assessment scale (MIDAS). The assessment of NO plasma concentration (by Griess reaction) and VEP (by monocular and binocular pattern reversal stimulation using a checkerboard) was made in 2 h from the onset of ophthalmic migraine attack.

**Results:** The plasma NO concentration was higher in ophthalmic migraine patients. The latency of P100 was significantly longer, and the amplitude diminished. The plasma level of NO was significantly correlated with VEP changes, and with migraine severity.

**Conclusions:** NO may play an important role in triggering the ophthalmic migraine attack and is correlated with visual pathways dysfunction. The inhibition of NO production may contribute to ophthalmic migraine prophylaxis.

**Disclosure:** Nothing to disclose
PP3247

Ocular ischemic syndrome – ultrasonographic characteristics

D.C. Jianu1,2, S.N. Jianu2, L. Petrica4, S.M. Deme5
1Department of Neurology, University of Medicine and Pharmacy ‘Victor Babes’, 2First Department of Neurology, Clinical Emergency County Hospital, 3Department of Ophthalmology, Military Emergency Hospital, 4Department of Nephrology, University of Medicine and Pharmacy ‘Victor Babes’, Timisoara, 5Department of Neurology, West University ‘Vasile Goldis’, Arad, Romania

Introduction: The internal carotid artery (ICA) is the main route by which the blood is supplied from the heart to the brain and eye. The ocular and orbital circulation is assured by the ophthalmic artery, which is the main collateral branch of the ICA. Occlusion or severe stenosis of the ICA (which is more than 70% of the arterial lumen’s diameter) may lead to transient or permanent symptoms of retinal ischemia and to an increased risk of ischemic stroke. Our purpose was to define orbital circulation abnormalities identified by color Doppler imaging (CDI) of retrobulbar vessels in patients with ICA occlusive/severe stenosis disease.

Methods: We used a Logiq 500 sonographer with 9 MHz linear probe for Doppler investigation of retrobulbar vessels, and an ultrasound equipment (My Lab 50 Esaote) with a 7.5-10 MHZ linear array transducer for extracranial Duplex sonography.

Results: We presented 12 patients with severe ICA stenosis/occlusion that developed or not an ocular ischemic syndrome. We discussed the hemodynamic status (orbital and cerebral) in order to elucidate the contribution to the ischemic symptoms. Cerebral and retinal perfusion is dependent not only on the degree of stenosis, and embolic risk, but also on the presence of unilateral or bilateral lesions and on the patency of collateral pathways.

Conclusions: The presentation of ocular ischemic symptoms may be the initial sign of carotid artery stenosis/occlusion and can also be used to predict the severity of ICA’s disease.

Disclosure: Nothing to disclose

PP3248

Saccade dynamics in adult Pompe’s disease

E. Kemanetzoglou1, E. Anagnostou1, G. Papadimas2, E. Kararizou1, I. Evdokimidis1
1Neurology, 2University of Athens, Athens, Greece

Introduction: Glycogen storage disease type II (Pompe disease) affects mainly proximal skeletal muscles. Despite older histological evidence of extraocular muscle involvement, ocular motor palsies or other eye movement abnormalities are not considered part of the clinical picture.

Methods: In this pilot study, we studied the dynamics of saccadic eye movements of three patients suffering from Pompe disease and compared their performance to that of age matched healthy controls. Horizontal rightward and leftward saccades were recorded binocularly with an infrared photoelectric device (IRIS, Skalar Delft) at 500 Hz sampling rate with 12-bit resolution, while subjects looked at LED targets placed at ±5, 10 and 15 deg eccentricities.

Results: No differences in saccade amplitudes, peak velocities or durations were observed between controls and patients. More specifically, for 5 deg saccades, patients had a mean peak velocity of 142.1 deg/s with a duration of 82.4 ms. For 10 and 15 deg saccades these values were 245.7 deg/s, 91.2 ms and 331.9 deg/s, 101.6 ms respectively, thereby lying well within one standard deviation of the mean of normal data.

Conclusions: Patients with late onset Pompe disease perform fast and accurate horizontal saccades without evidence of muscle paresis or other ocular motor abnormalities. Reported histological abnormalities of extraocular muscles do not appear to have a phenotypic impact.

Disclosure: Nothing to disclose
PP3249
Gait characteristics of patients with phobic postural vertigo: effects of fear of falling, attention, and visual input
R. Schniepp1,2
1Neurology, 2German Center for Vertigo and Balance Disorders, University of Munich, Munich, Germany

Introduction: Phobic postural vertigo (PPV) is the most common cause of chronic dizziness in middle-aged patients. Many patients report symptoms during gait. We investigated the gait performance and its relationship to the fear of falling and attention of PPV patients.

Methods: Prospective study of 24 patients with PPV and 24 healthy subjects (HS) using a pressure-sensitive mat (GAITRite®). Subject walked at three different speeds (slow, preferred, fast), during cognitive dual task (DTc), and with eyes closed (EC). Fall efficacy and balance confidence were rated by the Falls-Efficacy Scale-International (FES-I) and the Activities-specific Balance Confidence Scale (ABC).

Results: PPV patients walked slower with reduced cadence (all p<0.01), stride length (p<0.05), and increased double support (p<0.01) compared to HS. These changes correlated with FES-I (R=−0.528, p<0.001) and ABC (R=0.481, p<0.01). Walking deterioration under DTc did not differ between PPV and HS, but patients showed a reduced processing speed (p<0.05). When walking with EC, gait speed decreased more in PPV compared to HS (p<0.05).

Conclusions: Patients with PPV show gait changes which correlate with the fear of falling and balance confidence. Absent visual feedback led to more pronounced gait deteriorations in PPV than in HS, indicating a higher reliance of the patients on visual information during gait.

Conclusion: These findings support the view that the gait characteristics of PPV can be attributed to an inadequate, cautious gait control.

Disclosure: Nothing to disclose

PP3250
Incidence, seasonality and comorbidity in vestibular neuritis
I. Adamec1, M. Krbot Skoric1, M. Habek1,2
1University Hospital Center Zagreb, 2University of Zagreb, School of Medicine, Zagreb, Croatia

PP3251
Visual perseveration precipitating clomiphene citrate
A. Akbay-Ozsahin, S. Celik, G. Kenangil, F. Domac
Neurology, Erenkoy Mental Health and Nervous Disorders Training and Research Hospital, Istanbul, Turkey

PP3252
Prevalence, demographics, and clinical characteristics of vertigo disorders in a specialized multidisciplinary outpatient clinic
J. Burmeister1, E. Bock2, M. Gerwig1, M. Frings1, D. Arweiler-Harbeck1, S. Lang1, H.-C. Diener1, M. Obermann1
1Neurology, 2Medical Informatics, Biometrics and Epidemiology, 3Otolaryngology, Universitätsklinikum Essen, Essen, Germany

PP3253
Abstract withdrawn

PP3254
Abstract withdrawn
PP3255
RNFL thickness changes in coexistence of optic disc drusen and idiopathic intracranial hypertension
S. Demirci¹, A. Gunes², S. Demirci³, H.R. Koyuncuoğlu¹
¹Neurology, ²Ophthalmology, Süleyman Demirel University, Isparta, Turkey

PP3256
A case report of Vogt-Koyanagi-Harada disease
H. Derbali, I. Bedoui, M. Mansour, A. Riahi, J. Zaouali, R. Mrissa
Hopital Militaire de Tunis, Tunis, Tunisia

PP3257
Neurologic etiologies of visual loss in the young adult
N.K. El Ayoubi, R. Sawaya
Neurology, American University of Beirut and Medical Center, Beirut, Lebanon

PP3258
Cavernous sinus syndrome associated with herpes zoster ophthalmicus
M. Çelebisoy¹, H. Uluğ Erköyun², M.F. Gela², A. Ipekbayrak¹
¹Izmir Ataturk Education and Research Hospital, ²Izmir Katip Celebi University Ataturk Education and Research Hospital, Izmir, Turkey

PP3259
Evaluation of retinal nerve fiber layer thickness in a patient with bilateral optic disc drusen
A. Gunes¹, S. Demirci², S. Demirci³, H.R. Koyuncuoğlu²
¹Ophthalmology, ²Neurology, Süleyman Demirel University, Isparta, Turkey

PP3260
Unilateral papilledema without headache in the pseudotumor cerebri
S.F. Hiz¹, E. Mercan², T. Simsek², M. Mercan², A. Coskun²
¹Neurology, ²Gaziosmanpaşa Taksim Education and Training Hospital, Istanbul, Turkey

PP3261
Abstract withdrawn

PP3262
Susac’s syndrome: a case report and review of literature
M. Mati¹, D. Hakem², A. Bouarfa³
¹Neurology, Tipaza Hospital, Faculty of Medicine, Tipaza, ²Department of Internal Medicine, CHU Bab El Oued, ³Department of Ophthalmology, CHU Beni Messous, Algiers, Algeria

PP3263
A rare case report of neurosyphilis
C.H. Mısırlı, T. Bayram, N. Erdoğan, S. Gökçe, D. Öзkan
Neurology, Haydarpasa Numune, Istanbul, Turkey

PP3264
Bilateral optic neuritis in an immunocompetent adult with herpes zoster
J. Sequeira, S. Dias, J. Morgado, C. Capela, A. Sousa, A. Calado
Neurology Department, Centro Hospitalar Lisboa Central, Lisbon, Portugal

PP3265
About a rare case of Webino (Wall-eyed bilateral internuclear ophthalmoplegia) syndrome
J.L. Camacho Velásquez, E. Rivero Sanz, B. Pardiñas Baron, A. Suller Marti, E. Bellobsta Diago, A. Sanabria Sanchinel, L.F. Pascual Millan
Neurology, Hospital Clínico Universitario, Zaragoza, Spain

PP3266
Dizziness and vertigo in outpatient practice: main causes and algorithm for the clinical assessment
M. Zamergadi¹-², V. Parfenov¹, N. Yakhno¹, O. Melnikov², N. Bestuzheva¹, L. Antonenko¹
¹First Moscow State Medical University, ²Guta Clinic, Moscow, Russian Federation