

**2009 Research Days Abstract Form – Department of Ophthalmology – UNIFESP/EPM**

**2. SCIENTIFIC SECTION PREFERENCE (REQUIRED): EF**

Review the Scientific Section Descriptions. Select and enter the two-letter Code for the one (1) Section best suited to review your abstract.

**3. PRESENTATION PREFERENCE (REQUIRED) Check one:**

- Paper
- Poster
- FAST Paper

4. The signature of the First (Presenting) Author (REQUIRED) acting as the authorized agent for all authors, hereby certifies that any research reported was conducted in compliance with the Declaration of Helsinki and the 'UNIFESP Ethical Committee'

Scientific Section Descriptions (two-letter code):

- (BE) OCULAR BIOENGINEERING
- (CO) CORNEA AND EXTERNAL DISEASE
- (CA) CATARACT
- (EF) ELECTROPHYSIOLOGY**
- (EP) EPIDEMIOLOGY
- (EX) EXPERIMENTAL SURGERY
- (GL) GLAUCOMA
- (LA) LABORATORY
- (LS) LACRIMAL SYSTEM
- (LV) LOW VISION
- (NO) NEURO-OPHTHALMOLOGY
- (OR) ORBIT
- (PL) OCULAR PLASTIC SURGERY
- (PH) PHARMACOLOGY
- (RE) RETINA AND VITREOUS
- (RS) REFRACTIVE SURGERY
- (RX) REFRACTION-CONTACT LENSES
- (ST) STRABISMUS
- (TR) TRAUMA
- (TU) TUMORS AND PATHOLOGY
- (UV) UVEITIS
- (US) OCULAR ULTRASOUND

Deadline: Oct 12, 2009

**FORMAT:**  
Abstract should contain:

- Title**
- Author, Co-authors (maximum 6),**
- Purpose, Methods, Results,**
- Conclusion.**

Poster guidelines:  
ARVO Abstract Book (1.10 x 1.70m)

**53. FIRST (PRESENTING) AUTHOR (REQUIRED):**

Must be the author listed first in abstract body.

- ( ) R1      ( ) R2      ( ) R3      ( ) PIBIC
- ( x ) PG0    ( ) PG1    ( ) Fellow    ( ) Technician

Last Name: Cavascan

First Name: Nívea

Middle: Nunes

Service (Sector): ELECTROPHYSIOLOGY (EF)

CEP Number: 0349/08

**GRATING ACUITY DEFICIT MEASURED BY SWEEP-VEP IN CHILDREN WITH CORTICAL VISUAL IMPAIRMENT.**

Cavascan, N.N., Salomão, S.R., Sacai, P.Y., Pereira, J.M., Berezovsky, A. Federal University of São Paulo – Ophthalmology Department

Purpose: Cortical visual impairment (CVI) is a pediatric ophthalmological condition due to cerebral lesion which causes bilateral visual loss. It is the most important cause of childhood blindness in industrialized countries. Prematurity, perinatal hypoxia, brain malformations among others are etiological factors of this condition. The diagnosis is usually based on visual behavior, normal fundus and positive image testing for post-chiasmatic brain lesion. The purpose of this study was to determine grating acuity deficit (GAD) magnitude measured by sweep visual evoked potentials (sweep-VEP) in children with CVI. Gender, age and main etiology distributions were also investigated.

Methods: 125 children (72 males – 57.6%) with CVI referred to grating acuity measurement by sweep-VEP were studied. Age ranged from 1.41 to 95.95 months (mean=21.60±18.06, median=15.94). GAD was calculated by subtracting acuity thresholds from mean age norms from our own lab. Deficits were categorized as mild (0.2 to 0.4 logMAR), moderate (0.4 to 1.0logMAR) or severe (>1.0 logMAR). One-way Analysis of Variance (ANOVA) was used to compare GAD by age at testing and main etiology. Statistical significance was considered as  $p \leq 0.05$ .

Results: GAD ranged from 0.19 to 1.36 logMAR (mean=0.74±0.28; median=0.74) and it was moderate in 80 children (64 %), severe in 26 (20.8 %) and mild in 19 (15.2 %). GAD was significantly smaller in children tested in the first year of life (Kruskall-Wallis ANOVA;  $H=23.746$ ;  $P<0.001$ ) when compared to those tested in the second or third year (Dunn's test;  $P<0.05$ ). No significant differences were found for either gender or etiology. Prematurity (N=25 – 20%), followed by seizures (N=21 – 16.8%), perinatal hypoxia (N=19 – 15.2%) and hydrocephalus (N=19 – 15.2%) were the main etiologies.

Conclusions: CVI caused moderate or severe grating acuity deficit in the vast majority of cases and it was evidently larger for children tested from the second year of life on. The magnitude of visual acuity deficit should be taken into account for therapeutic planning and rehabilitation programs of these patients.

Keywords: visual acuity, children, cortical visual impairment, sweep-VEP