Study Finds Visual Evoked Potential Identifies Concussion History

New VEP marker identified using Diopsys technology helps eye care specialists provide better treatment options for patients with vision problems from past mild traumatic brain injury.

Pine Brook, NJ (PRWEB) August 24, 2017 -- A new objective visual evoked potential (VEP) marker was discovered in a high percentage of patients suffering concussion symptoms in a recent study published in Optometry and Vision Science [1]. The study authors developed a statistical algorithm from 79 patients predicting concussion history with 92 percent accuracy using the Diopsys® NOVA™ ERG and VEP Vision Testing System (Pine Brook, NJ). These findings represent an important tool for both concussion diagnosis, and the potential for new insights and treatment options.

Diagnosing vision problems caused by concussions can be difficult because visual symptoms can take time to manifest after the initial traumatic brain injury (TBI), and routine ophthalmic exams can look normal in patients with mild TBI [2]. The availability of an objective test to reliably evaluate visual dysfunction in these patients is significant.

The recent VEP study was conducted on two groups of patients: those suffering from convergence insufficiency (CI), and those with CI and a history of concussion. CI is an eye-teaming dysfunction affecting near vision, and has been found to be present in a great majority of patients suffering the effects of concussion. “Because the treatment for a patient with a past concussion would be different than that for a patient with CI alone, identifying the concussion history is important,” said study author Dr. Paul J. Lederer.

Lederer and his team of researchers analyzed the electrical responses recorded from the participants’ visual cortex during presentation of carefully designed visual stimuli, and found a specific combination of latency delay and reduced amplitude in the VEP results of patients in the concussion group. This VEP marker had a 92 percent sensitivity and 80 percent specificity for the diagnosis of concussion history.

The ability of the VEP test results to help diagnose the cause of CI symptoms from concussions opens the door to better, more appropriate treatment methods for these patients, and therefore better outcomes.

About Diopsys Inc.
Diopsys, Inc. (http://diopsys.com/) is the world leader in modern visual electrophysiology for the eye care practice. The company’s unique, patented technology provides ophthalmologists and optometrists with objective, functional information about the health of the vision system to aid in the early detection of vision disorders, and post-treatment tracking for enhanced patient management.


Contact Information
Caitlin DEntremont
Diopsys
http://www.diopsys.com/
+1 973-244-0622 Ext: 365

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