IMPULSE MONITORING, INC.

CASE STUDY: Improving Patient Management and Quality Care Through Intraoperative Monitoring

Courtesy of R. O'Brien MD, FRCP, MBA

Reference February 12, 2007

HISTORY

23-year old female. Patient presents with severe muscular dystrophy.

MONITORING

Surgeon requested upper and lower SSEPs and TCeMEPs for the case. SSEP responses were obtained by stimulation of the median nerve at the wrists, and posterior tibial nerve at the ankles. Baseline SSEP responses showed good morphology with amplitude and latency values within normal limits.

CHANGES

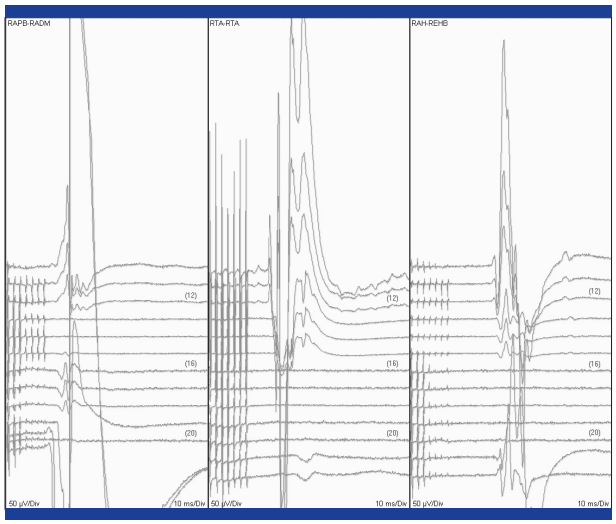
Changes in SSEP/TCeMEP responses occurred when the head was repositioned after decompression. The surgeon was informed and readjusted the head. SSEP and TCeMEP responses returned to baseline. The decompression was completed and the patient was closed. SSEP and TCeMEP responses were performed during halo placement. Changes in TCeMEP responses also occurred during halo placement. The patient's head was readjusted and TCeMEP responses returned to baseline. A wake-up test was performed and the patient moved all extremities.

OUTCOME

No new neurological deficit.

LIKELY OUTCOME WITHOUT MONITORING

The changes in positioning reflect underlying compression or ischemic effect with positioning. Left uncorrected, this would likely have resulted in a myelopathy.



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About Impulse Monitoring

Impulse Monitoring, Inc. (IMI) provides intraoperative neurophysiological monitoring (IONM) services to hospitals and other facilities for spinal, nerve and brain-related surgeries. IONM allows early detection of neurological compromise and identification of functional neural structures during surgery. The scope of IMI's service includes neurophysiologists who provide monitoring in the operating room, supported by dedicated real-time, remote physician monitoring.