IMPULSE MONITORING, INC.

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

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

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HISTORY

59-year old man with 80-99% left carotid stenosis and prior TIAs without neurological deficit admitted for elective carotid endarterectomy (CEA).

MONITORING

Upper extremity SSEPs and EEG.

CHANGES

With clamping, EEG and DSA remained normal. Right cortical SSEP waveform however suddenly dropped. The change was pointed out by the overseeing neurologist to the technologist who was concentrating on the EEG data view and did not have the SSEP window open at the time of clamping. The surgeon was informed and shunted. SSEPs recovered over 5 minutes. Reclamping to finish closure showed similar changes, with recovery later in surgery.

OUTCOME

No neurological deficit.

LIKELY OUTCOME WITHOUT MONITORING

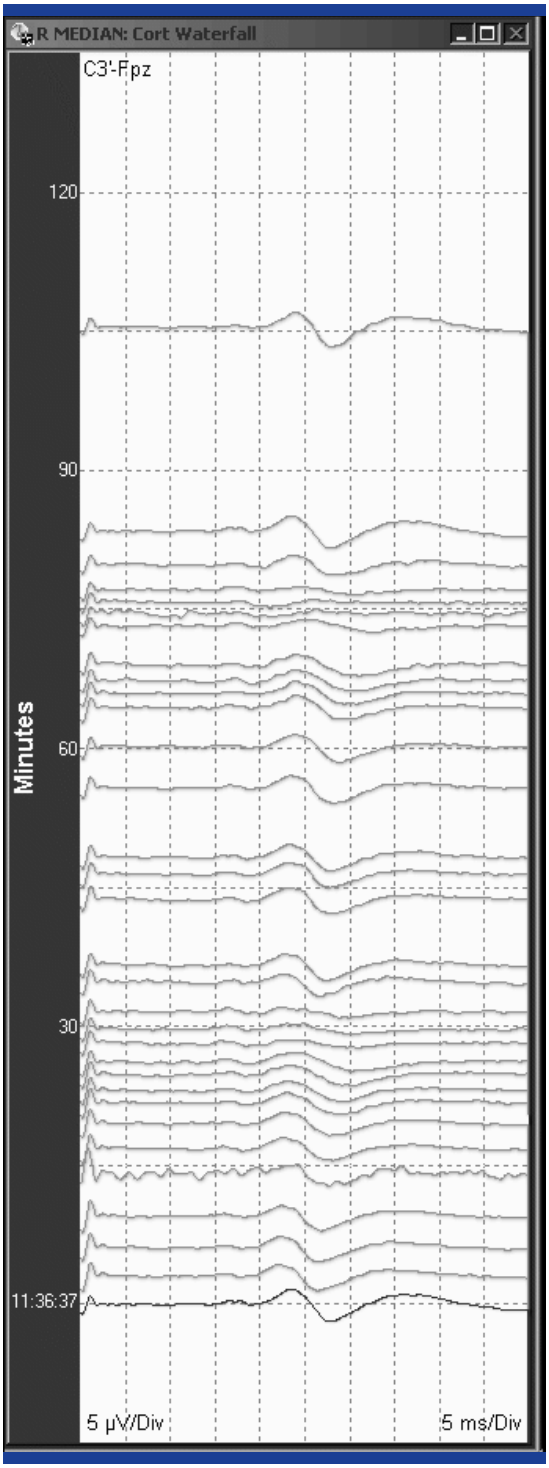
For this CEA done with selective shunting, failure to recognize changes after clamping may have resulted in more prolonged subcortical ischemia or injury.

SELECT REFERENCES:

Bond, R.; Rerkasem, K. & Rothwell, P. M. (2003), 'Routine or selective carotid artery shunting for carotid endarterectomy (and different methods of monitoring in selective shunting).', Stroke 34(3), 824--825.

Halsey, J. H. (1992), 'Risks and benefits of shunting in carotid endarterectomy. The International Transcranial Doppler Collaborators.', Stroke 23(11), 1583--1587.

Muller, M.; Langenscheidt, S.; Behnke, S.; Schuder, G.; Walter, P. & K., S. (1997), 'Shunting in Carotid Endarterectomy Increases Microembolic Events', Cerebrovasc Dis 7(suppl 4)(1), 86.



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.

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