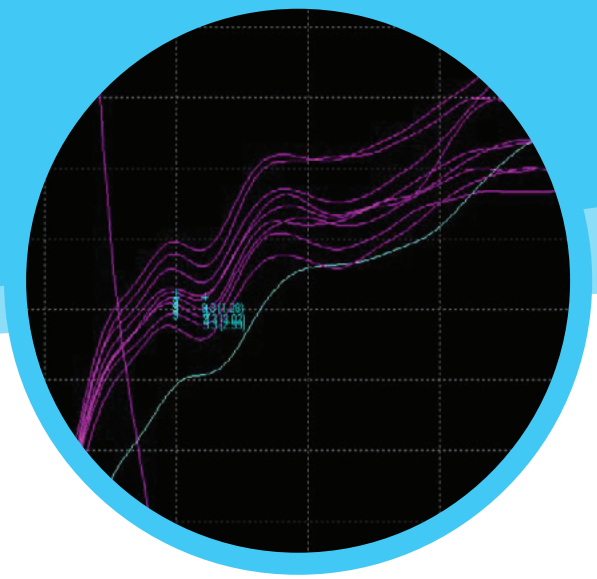
Neuro Alert



Case 3

D Wave

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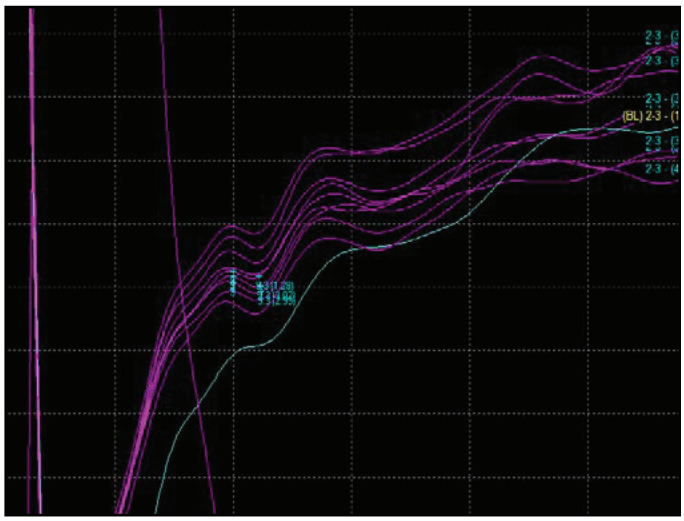
HISTORY:

This is a 16 year old patient with Neurofibromatosis Type I causing a large cystic intramedullary mass extending from C1-C4.

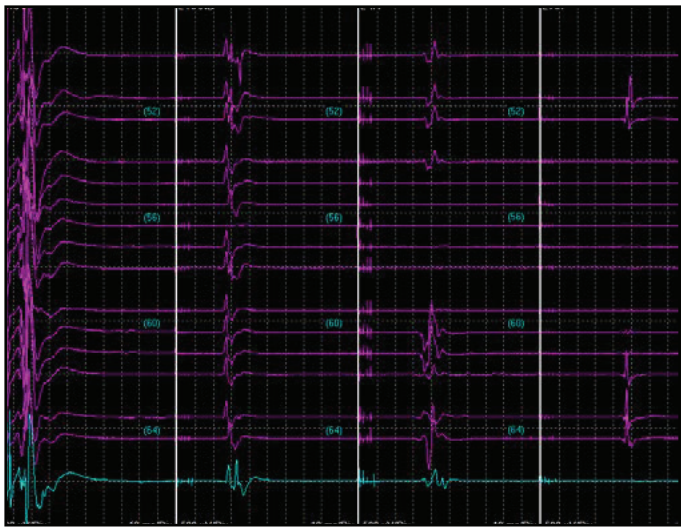


MONITORING:

D-Waves, SSEPs, TcMEPs, EMG.

NOTED CHANGES:

D-waves recorded throughout the procedure showed no changes, and all muscle-recorded MEP responses were consistent throughout the entire procedure. Surgeon was notified that the right tibial cortical SSEP amplitude dropped more than 75%.



OUTCOME:

The tumor inside the cervical spinal cord was decompressed successfully without immediate neurologic consequences.

POTENTIAL OUTCOME WITHOUT MONITORING:

This teenage patient would likely have lost sensory and motor function to the left upper and left lower extremities immediately post operatively.

CLINICAL CORRELATION:

Direct spinal cord recording of motor function in a D-wave shows the integrity of the pyramidal tracts. Outcomes with combined D-waves and TcMEPs are predictable measures of postoperative outcomes in spinal tumor surgery (Kim, Betz, Huhn, and Newton, 2008).

REFERENCE:

1 Delitis, V. and Sala, F. (2008). Intraoperative neurophysiological monitoring of the spinal cord during spinal cord and spine surgery: A review focus on the corticospinal tracts. Clinical Neurophysiology, 119(2). Pp. 248-264. Retrieved from http://www.sciencedirect.com/science/article/pii/S1388245707006037

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