Mapping visuospatial and self-motion perception functions in the left parietal lobe

Carlos Velásquez, MD,¹ Elsa Gómez, ST,² and Juan Martino, MD, PhD¹

Departments of ¹Neurological Surgery and ²Psychiatry, Hospital Universitario Marqués de Valdecilla and Fundación Instituto de Investigación Valdecilla, Santander, Spain

Parietal lobe functions include somesthesia, language, calculation, self-motion perception, and visuospatial awareness. In this video, the authors show the intraoperative mapping of a left parietal lobe for a low-grade glioma resection. Standard sensory and language mapping were performed. Interestingly, by using the “Line Bisection” task, subcortical stimulation of the gyrus angularis was repeatedly associated with ipsilateral spatial neglect, often described in the right parietal lobe. In a similar way, subcortical stimulation in a more posterior point elicited episodes of vertigo, probably due to stimulation of the superior longitudinal fasciculus. Both findings were useful to define the functional limit of the resection.

The video can be found here: https://youtu.be/qgGDRW_6u0A.

KEYWORDS visuospatial perception; intraoperative electrical stimulation; awake craniotomy; parietal lobe; glioma; video

SUBMITTED June 26, 2018. **ACCEPTED** August 3, 2018.

INCLUDE WHEN CITING Published online October 1, 2018; DOI: <http://thejns.org/doi/abs/10.3171/2018.10.FocusVid.18286>.

CORRESPONDENCE Juan Martino: Hospital Universitario Marqués de Valdecilla and Fundación Instituto de Investigación Valdecilla, Santander, Spain. juan.martino@hotmail.com.