

Functional Near-Infrared Spectroscopy Reveals Delayed Hemodynamic Changes in the Primary Motor Cortex During Fine Motor Tasks and Decreased Interhemispheric Connectivity in Parkinson's Disease Patients

Edgar Guevara,^{a,b,*} Francisco Javier Rivas-Ruvalcaba,^c Eleazar Samuel Kolosovas-Machuca,^d Miguel G. Ramírez-Elías,^d Ramón Díaz de Leon Zapata,^e Jose Luis Ramirez-GarciaLuna,^{b,f} Ildefonso Rodríguez-Leyva^c

^aCONAHCYT-Universidad Autónoma de San Luis Potosí, Mexico

^bCoordinación para la Innovación y Aplicación de la Ciencia y la Tecnología, Universidad Autónoma de San Luis Potosí, Mexico

^cNeurology Service, Hospital Central "Dr. Ignacio Morones Prieto", Faculty of Medicine, Universidad Autónoma de San Luis Potosí, Mexico

^dFaculty of Science, Universidad Autónoma de San Luis Potosí, Mexico

^eTecnológico Nacional de México, Campus San Luis Potosí, Mexico

^fDivision of Surgery, Hospital Central "Dr. Ignacio Morones Prieto", Faculty of Medicine, Universidad Autónoma de San Luis Potosí, Mexico

Supplementary Material

Table S1. P-values after false discovery rate correction (FDR) of the group-level difference for two different conditions: right and left finger-tapping. Five different metrics extracted from the hemodynamic response were compared between controls and Parkinson's disease patients. Significant values after FDR correction are displayed in **bold**.

Supplementary Material

Table S1. P-values after false discovery rate correction (FDR) of the group-level difference for two different conditions: right and left finger-tapping. Five different metrics extracted from the hemodynamic response were compared between controls and Parkinson's disease patients. Significant values after FDR correction are displayed in **bold**.

Finger-tapping	Channel	Peak		Time to peak		AUC		Mean		Slope						
		HbO	HbR	HbT	HbO	HbR	HbT	HbO	HbR	HbT	HbO	HbR	HbT			
Right	13	0.7500	0.9705	0.9892	0.2686	0.8735	0.4402	0.9191	0.7623	0.9246	0.9447	0.7623	0.9246	0.9676	0.8187	0.8627
	12	0.7500	0.9705	0.8541	0.5843	0.3905	0.4402	0.9461	0.7710	0.9246	0.9461	0.7710	0.9246	0.3207	0.8187	0.2548
	17	0.7500	0.9705	0.4971	0.2686	0.9891	0.8272	0.9191	0.7710	0.7587	0.9447	0.7710	0.7587	0.3207	0.8811	0.2548
	16	0.9461	0.9705	0.8627	0.2686	0.8735	0.4402	0.9461	0.9892	0.9246	0.9461	0.9892	0.9246	0.4076	0.8811	0.4434
	15	0.9461	1.0000	0.7081	0.0047	0.8735	0.4402	0.9191	0.7710	0.9246	0.9447	0.7710	0.9246	0.3207	0.9676	0.3010
	22	0.9461	0.9705	0.8627	0.5705	0.3905	0.7471	0.9191	0.7710	0.6832	0.9447	0.7710	0.6832	0.4076	0.8187	0.6344
	21	0.7500	0.9705	0.4971	0.8604	0.3048	0.6645	0.9191	0.5678	0.6628	0.9447	0.5678	0.6628	0.3889	0.8187	0.2548
	20	0.7500	0.9705	0.6738	0.8604	0.3905	0.5002	0.9191	0.8858	0.9246	0.9447	0.8627	0.9246	0.9676	0.9676	0.8817
	19	0.7500	0.9705	0.4545	0.8604	0.8494	0.8392	0.9191	0.5678	0.4679	0.9447	0.5678	0.4679	0.5117	0.8187	0.2839
	18	0.7500	1.0000	0.4545	0.8604	0.8735	0.6645	0.9191	0.7710	0.6628	0.9447	0.7710	0.6628	0.4076	0.9676	0.3010
Left	1	0.8423	0.9560	0.9927	0.0505	0.5251	0.2546	0.5376	0.9892	0.7473	0.5376	0.9892	0.7473	0.8858	0.9892	0.9246
	2	0.9892	0.9560	1.0000	0.8497	0.5251	0.7556	0.9676	0.7473	0.7557	0.9461	0.7473	0.7557	0.7754	0.6948	0.9246
	4	0.9892	0.7205	0.9927	0.3593	0.5251	0.6638	0.6470	0.7473	0.7473	0.6470	0.7473	0.7473	0.6470	0.6948	0.9246
	5	0.8423	0.9560	0.9927	0.5278	0.5251	0.7556	0.6257	0.7473	0.7473	0.6257	0.7473	0.7473	0.6470	0.9892	0.9246
	6	0.9892	0.9560	0.9927	0.5524	0.5251	0.7556	0.9676	0.7473	0.7473	0.9461	0.7473	0.7473	0.9031	0.9892	0.9246
	7	0.9892	0.9560	0.9927	0.7944	0.2136	0.6638	0.9676	0.7473	0.7473	0.9461	0.7473	0.7473	0.8858	0.9892	0.9246
	8	0.9892	0.9892	1.0000	0.3593	0.5251	0.2546	0.9676	0.9892	0.7557	0.9461	0.9892	0.7557	0.6470	0.8750	0.9246
	9	0.6011	0.9560	0.9927	0.4164	0.5251	0.6638	0.5376	0.7473	0.7473	0.5376	0.7473	0.7473	0.6470	0.6948	0.9246
	10	0.9892	0.9560	1.0000	0.0450	0.9352	0.2546	0.6570	0.7473	0.7473	0.6570	0.7473	0.7473	0.6470	0.8750	0.9246
	11	0.8423	0.9560	0.9927	0.7944	0.5251	0.6638	0.5731	0.7473	0.7473	0.5731	0.7473	0.7473	0.7754	0.7133	0.9246