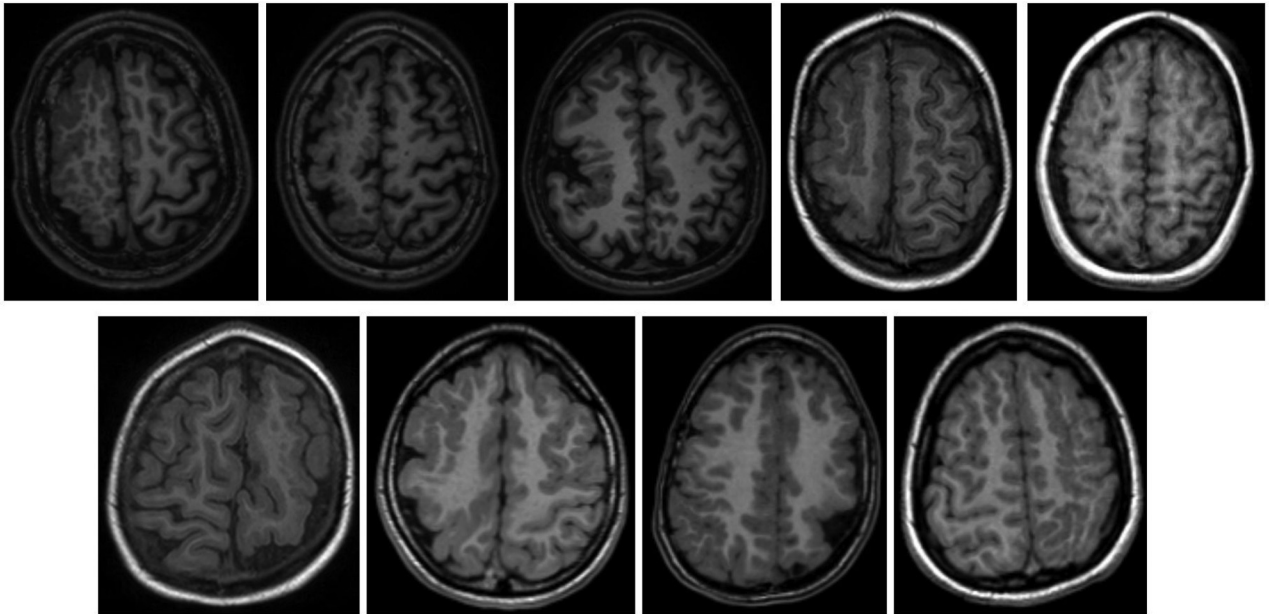


On-line Table: Patient characteristics

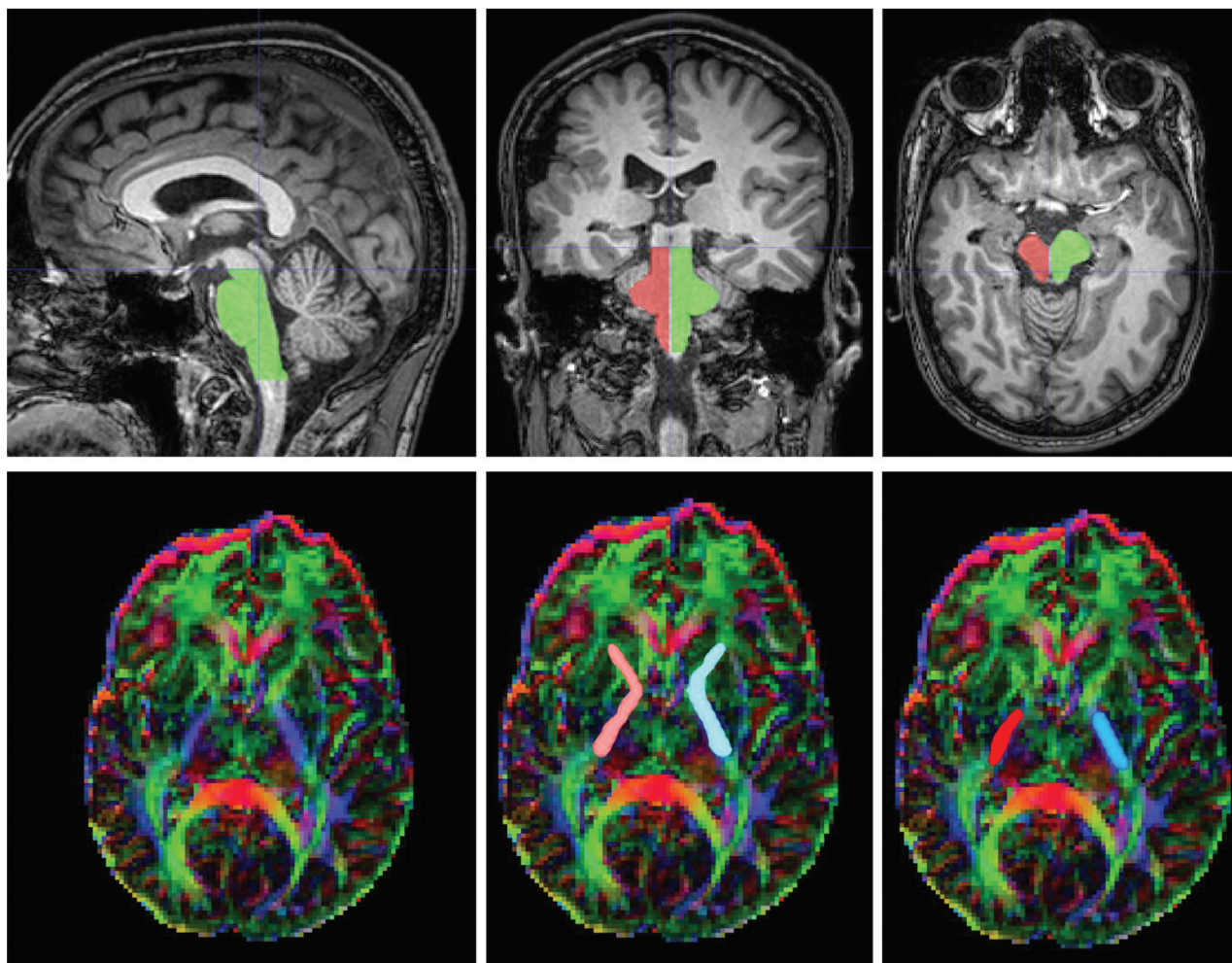
No.	Sex	Age at MRI (yr)	PMG Extent	Hand Motor Strength ^a	Hand Motor Deficit	Comment	AI Rater 1	AI Rater 2	Crus Rater 1	Crus Rater 2	DWI Crus Rater 1	DWI Crus Rater 2	Crus Asymmetry T1WI + DWI	Brain Stem Volume Ratio	Thalamus Volume Ratio	FA Internal Capsule (Whole)	FA Internal Capsule (Posterior Limb)	FA Ratio Brain Stem	FA Ratio Cerebral Crus
1	M	19	R frontal, parietal, temporal	4 (4)	Distinct	fMRI, hemispherectomy	11	6	2	2	3	3	Moderate/severe	0.17	0.00	0.10	0.13	0.06	0.13
2	M	34	R frontal, parietal, temporal	3	Distinct	fMRI	9	7	1	2	2	2	Moderate/severe	0.08	-0.56	0.00	0.02	0.05	0.07
3	F	26	R central, Sylvian fissure	5	Minimal	fMRI	1	3	0	1	1	1	No/mild	0.04	-0.29	0.08	0.05	0.04	0.09
4	F	4	R hemisphere	4 (4)	Distinct	Hemispherectomy	10	11	3	3	2	3	Moderate/severe	0.13	-0.18	0.16	0.18	0.20	0.26
5	F	7	R hemisphere	5	Minimal	-	1	4	0	1	0	1	No/mild	0.06	1.00	0.00	0.06	-0.01	0.00
6	M	3	L hemisphere	4 (3-4)	Distinct	Hemispherectomy	10	8	3	2	3	3	Moderate/severe	0.13	-0.63	0.07	0.05	0.00	0.22
7	F	7	R frontal, parietal, temporal	3-4	Distinct	-	8	6	3	2	3	2	Moderate/severe	0.15	0.06	0.00	0.09	0.02	0.08
8	F	6	L frontal, parietal, temporal	3-4	Distinct	-	12	11	3	2	3	2	Moderate/severe	0.08	0.14	0.04	0.12	0.03	0.09
9	F	6	L frontal, parietal, temporal	4	Distinct	-	5	8	1	2	0	1	No/mild	0.03	1.00	0.03	0.05	0.02	0.00

Note:—L indicates left; R, right; AI, asymmetry index.

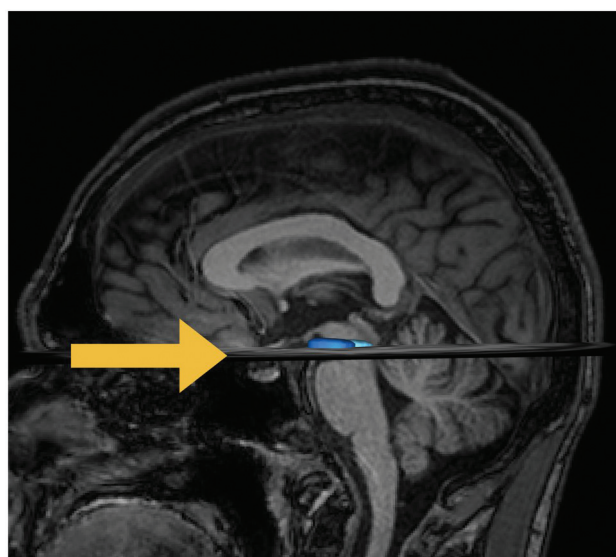
^a Hand motor strength rated according to the Medical Research Council scale.



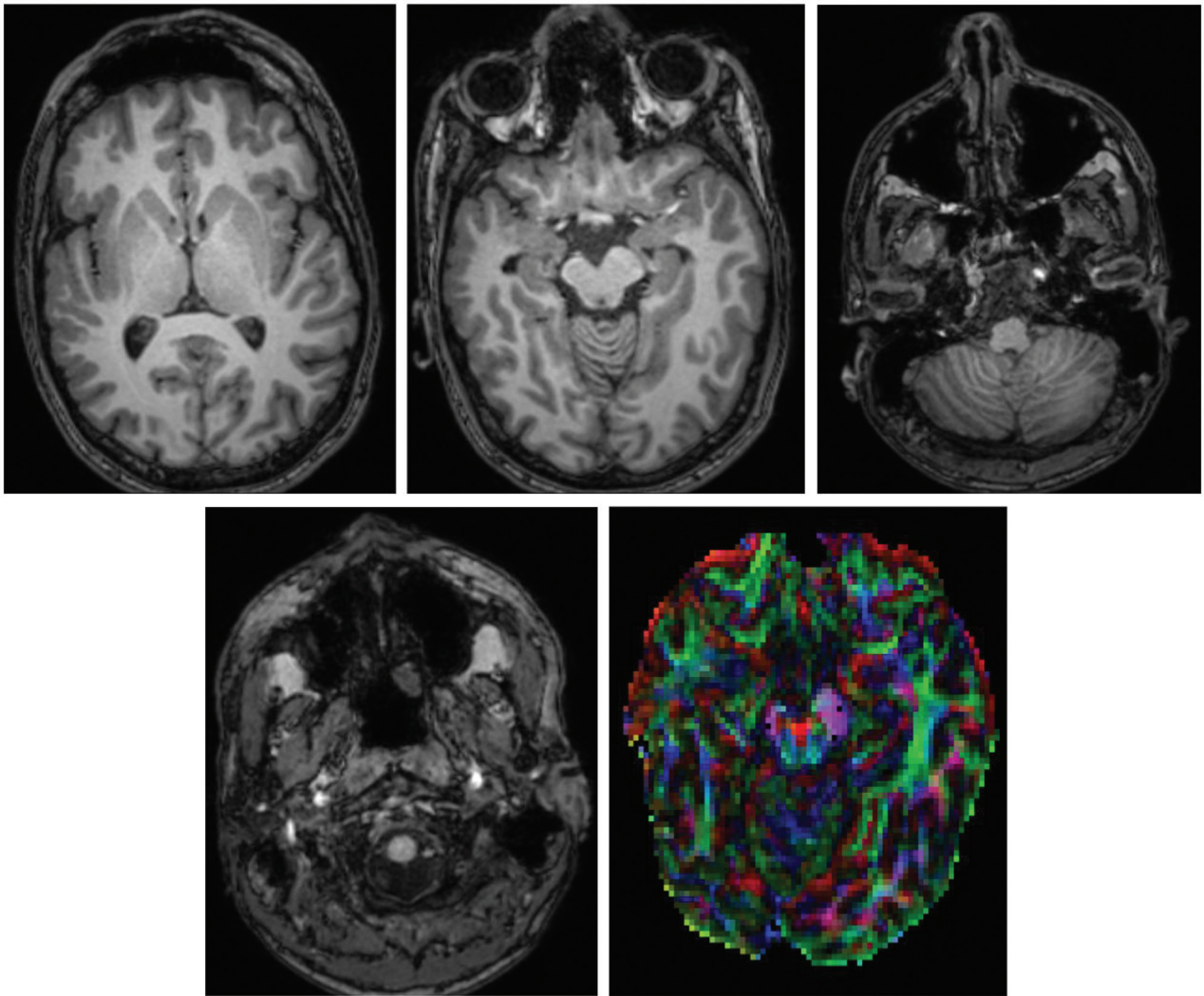
ON-LINE FIG 1. Axial T1WI of all patients (numbered 1–9 from left upper to right lower level) with polymicrogyria substantially involving the primary motor cortex.



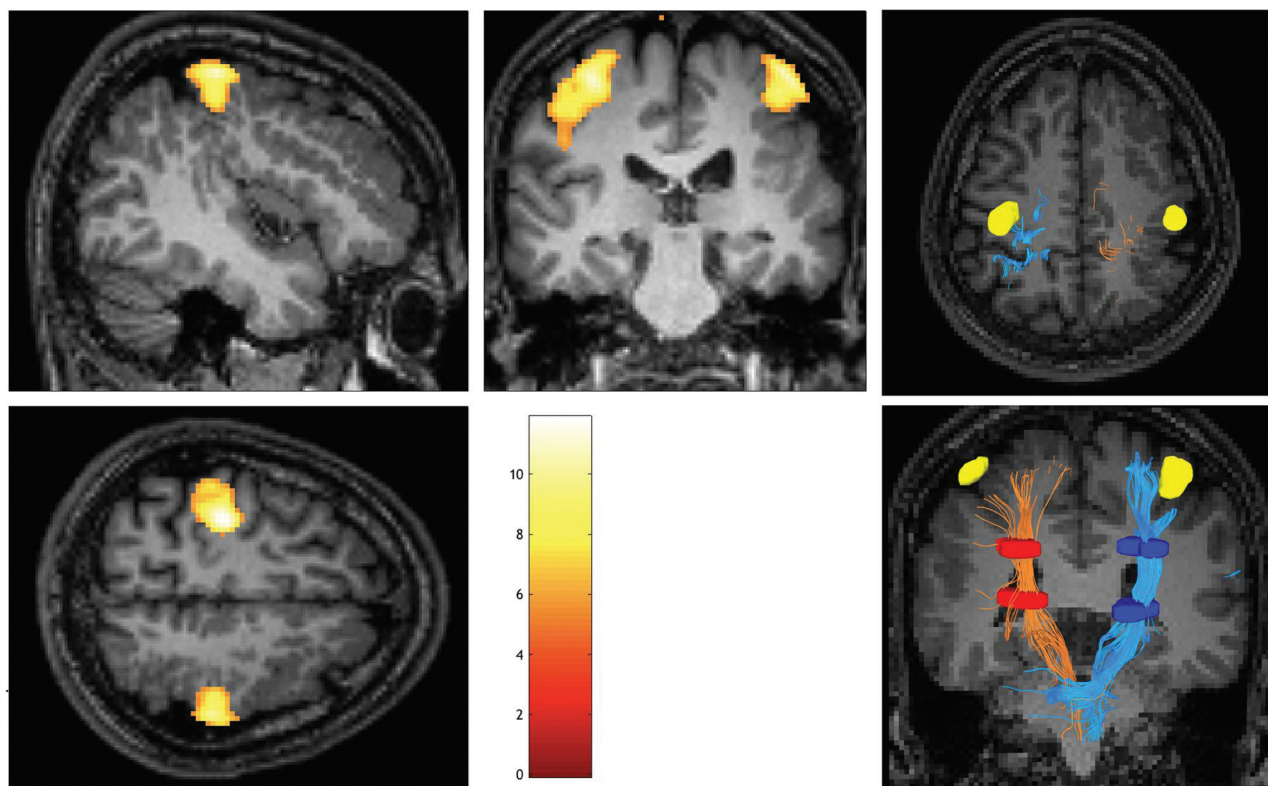
ON-LINE FIG 2. Manual segmentation of the brain stem (*upper row*) on TIWI. Manually defined ROIs of the internal capsule (*middle image*: whole left and right internal capsule; *right image*: only the posterior limb of the internal capsule) on color-coded DTI maps. Highly significant task-related activations were seen within the structurally altered central region. DTI tractography led to the same area of presumed primary motor cortex.



ON-LINE FIG 3. Axial height of the brain stem, where DTI parameters were measured (1 slice below the mammillary bodies).



ON-LINE FIG 4. CST characterization in patient 1: T1WI at different levels of the corticospinal tract (internal capsule, cerebral crus, medulla, spine), color-coded FA color map (brain stem). Asymmetry was altogether rated as moderate/severe. Hand motor function was severely impaired with no de novo deficit after hemispherectomy.



ON-LINE FIG 5. fMRI activation map (bilateral hand motor task, family-wise error of $<.05$, 6-voxel minimum cluster size) and DTI tractography of the CST in patient 1.