Anatomical cause of gerstmann like syndrome identified through mr dti tractography

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Introduction: The symptom complex of finger agnosia, right-left disorientation, dysgraphia, and dyscalculia constitutes Gerstmann`s syndrome. Gerstmann syndrome is usually caused by acquired lesions of the dominant parietal lobe including the angular and supramarginal gyri. We describe a patient who exhibited dysgraphia, acalculia, finger agnosia, left-right disorientation as well as anomia and was found to have cortical ischemic lesions in the dominant parietal lobe both through brain MRI and MR Diffusion Tensor Imaging(DTI) Tractography. Case: A 56 year old woman, smoker with a history of arterial hypertension and uterine fibroids was brought to the emergency department because of an episode of sudden loss of consciousness. Blood tests revealed low hematocrit and hemoglobin values and the patient was admitted to the Hematology clinic where the diagnosis of acute myelomonocytic leukemia was made. Neurological examination showed an intact level of consciousness, fluent paraphasic speech and the symptom complex of Gerstmann Syndrome. MR angiography identified a 80% stenosis of the left medial cerebral artery and head Diffusion Weighted(DW)-MRI showed multiple acute cortical and subcortical infracts in the area of distribution of the left medial cerebral artery. The patient’s symptoms were weighted with the Boston Diagnostic Aphasia Examination (BDAE) and the anatomic lesion was identified through an MR DTI Tractography. Discussion: MR DTI Tractography can visually represent complicated neural networks formed by short connections among different cortical and subcortical regions. In our case, we managed to interpret an unusual complex of symptoms and identify the anatomical cause of a rather rare clinical case.