Slowly progressive Parkinson syndrome due to thalamic butterfly astrocytoma

Figure MRI, MR-spectroscopy, and histopathology

MRI shows a thalamic butterfly-shaped tumor, including the cerebral peduncles and pons (A.a-A.b) without enhancement in T1-weighted images (A.c). Magnetic resonance (MR) spectroscopy shows markedly increased choline with decreased N-acetylaspartate peak and metabolic hot spot (B), suggestive of a high-grade glioma, verified by histopathology displaying glial fibrillary acid protein (GFAP)-positive tumor cells with mitoses and proliferative activity (C). FLAIR = fluid-attenuated inversion recovery.

A 74-year-old man had a 4-year history of slowly progressive asymmetric resting tremor, hypokinesia, rigidity, and postural instability and mild cognitive decline, initially diagnosed as Parkinson disease. Clinical response to levodopa was moderate (video on the *Neurology*[®] Web site at www.neurology.org). Additional pyramidal signs developed; cranial MRI showed a symmetric bilateral tumor of the thalamus and brainstem (figure, A and B). Biopsy revealed an anaplastic astrocytoma grade III (figure, C). Even though parkinsonism caused by a tumor is rare,¹ brain imaging should be considered early when presenting with atypical clinical signs or poor levodopa response, so as to exclude potentially treatable structural causes.

T. Wächter, MD, M. Engeholm, MD,* S. Bisdas, MD, J. Schittenhelm, MD, T. Gasser, MD, R. Krüger, MD, Tübingen, Germany*

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**These authors contributed equally.*

Author contributions: Tobias Wächter: drafting and revision of the manuscript, analysis and interpretation of data, acquisition of data, study coordination. Maik Engeholm: revision of the manuscript, study concept, analysis and interpretation of data, acquisition of data. Sotirios Bisdas: revision of the manuscript, analysis and interpretation of data, acquisition of data. Jens Schittenhelm: revision of the manuscript, analysis and interpretation of data, acquisition of data, Thomas Gasser: revision of the manuscript, study supervision. Rejko Krüger: revision of the manuscript, study concept and design, analysis and interpretation of data, acquisition of data, study supervision, and coordination.

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Address correspondence and reprint requests to Dr. Rejko Krüger, Department for Neurodegenerative Diseases and Hertie Institute for Clinical Brain Research and German Center for Neurodegenerative Diseases, University of Tübingen, Hoppe-Seyler-Str. 3, D-72076 Tübingen, Germany; rejko.krueger@uni-tuebingen.de

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