



Diffuse gliomas with FGFR3-TACC3 fusion have characteristic histopathological and molecular features

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Résumé en anglais	Adult glioblastomas, IDH-wildtype represent a heterogeneous group of diseases. They are resistant to conventional treatment by concomitant radiochemotherapy and carry a dismal prognosis. The discovery of oncogenic gene fusions in these tumors has led to prospective targeted treatments, but identification of these rare alterations in practice is challenging. Here, we report a series of 30 adult diffuse gliomas with an in frame FGFR3-TACC3 oncogenic fusion (n = 27 WHO grade IV and n = 3 WHO grade II) as well as their histological and molecular features. We observed recurrent morphological features (monomorphous ovoid nuclei, nuclear palisading and thin parallel cytoplasmic processes, endocrinoid network of thin capillaries) associated with frequent microcalcifications and desmoplasia. We report a constant immunoreactivity for FGFR3, which is a valuable method for screening for the FGFR3-TACC3 fusion with 100% sensitivity and 92% specificity. We confirmed the associated molecular features (typical genetic alterations of glioblastoma, except the absence of EGFR amplification, and an increased frequency of CDK4 and MDM2 amplifications). FGFR3 immunopositivity is a valuable tool to identify gliomas that are likely to harbor the FGFR3-TACC3 fusion for inclusion in targeted therapeutic trials.
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- [22] <http://okina.univ-angers.fr/publications/ua18204>
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