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Pilocytic astrocytoma with histological malignant features without previous radiation therapy.

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Abstract

Pilocytic astrocytoma sometimes transforms to a malignant type, and previous radiation therapy is considered to be a key factor. We report a case of pilocytic astrocytoma with histological malignant features without previous radiation therapy. A 21-year-old man presented a sudden onset of severe headache. Neuroimaging had detected a cystic mass in the posterior fossa at the age of one year without therapeutic intervention. On admission, computed tomography depicted a brain tumor in the posterior fossa with cystic components, intratumoral hemorrhage, and upward herniation. Urgent surgery was performed, and histological examination revealed some features of pilocytic astrocytoma but also broad necrosis, high cellularity, and MIB-1 labeling index of more than 20%. The histological diagnosis was pilocytic astrocytoma with malignant features. This tumor had continued a benign clinical course for 20 years, but had eventually transformed to a malignant type. Therefore, pilocytic astrocytoma may undergo spontaneous malignant transformation during its natural clinical course.

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