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### **Assessment of MGMT promoter methylation status in pleomorphic xanthoastrocytoma.**

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#### **Abstract**

Although pleomorphic xanthoastrocytoma (PXA) is currently designed as a grade II glioma according to the WHO classification, a significant percentage of the tumors undergo malignant progression. In this study, the MGMT methylation status was examined in 11 PXA patients to determine if a biologic rationale exists to support the use of temozolomide (TMZ) for treatment of aggressive PXA. There were 9 cases of PXA grade II and 2 cases of PXA with anaplastic features. In the MGMT methylation study, only 2 (18.1%) of the 11 tumor samples tested by MS-qLNAPCR were positive for MGMT promoter methylation. In contrast, other cases, including PXAs with anaplastic features, were unmethylated. In addition, a tumor recurrence was found to be unmethylated. Thus, MGMT promoter methylation is not frequent in PXA and our results raise doubts about the benefits of treating indistinctly aggressive PXA with TMZ.

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