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## The prognostic value of ATRX mutations in glioblastoma

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**Background/Aims:** Gliomas are the most common primary central nervous system (CNS) tumor, accounting for more than 40% of all brain tumors. Several studies have demonstrated that ATRX alteration, combined with other classical biomarkers, may confer a better prognosis in adult patients with glioblastoma especially the astrocytic tumors. Therefore We conducted a systematic review and meta-analysis to study whether ATRX mutation is associated with the prognosis of glioma patients.

**Methods:** We identified eligible studies published from January 1980 to January 2017 by searching four electronic databases (PUBMED, MEDLINE, EMBASE and Cochrane Library). The endpoint was the effects of ATRX mutation on the survival of patients with glioma.

**Results:** Pooled results from 15 clinical studies were included for the meta-analysis. The pooled HR of 0.358 (95% CI 0.264–0.487,  $P < 0.001$ ) indicated that ATRX mutations were associated with better OS. A total of 10 studies with completed data of PFS were included in the analysis. The pooled HR of 0.322 (95% CI 0.242–0.455,  $P < 0.001$ ) indicated that ATRX mutations were associated with better PFS. **Conclusions:** The results showed that the presence of ATRX mutations was associated with longer OS and PFS in glioblastoma patients.

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