

## ABSTRACT

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The oligodendroglial histological features are not independently predictive of patient prognosis in lower-grade gliomas.

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The relevance of oligodendroglial histological features to patient prognoses is controversial. 93 LrGGs resected for about 2 decades were re-assessed based on WHO2007 with special interest to pure oligodendroglial diagnosis (oligodendroglioma or anaplastic oligodendroglioma) and presence of CFO features. Those histological features, patients OS, and tumor chromosomal/genetic characteristics were correlated each other in each of the 3 IDH-1p/19q-based molecular groups. There was significant association between 1p/19q status with the oligodendroglial histological diagnosis as well as presence of CFO in the entire cohort. The oligodendroglial diagnosis was associated with longer OS in IDHmut/codel group; however, this association was not significant in the multivariate analyses. In IDHmut/noncodel and IDH-wildtype groups, the oligodendroglial diagnosis was not associated with patient OS. Presence of CFO was not associated with patient OS in any molecular groups. Gain of 8q was associated with the oligodendroglial diagnosis in IDHmut/noncodel group. Neither the oligodendroglial diagnosis nor CFO was predictive for the methylation status of the MGMT gene in any molecular groups. The oligodendroglial histological features are not independently predictive of either patient prognosis or chemotherapeutic response in LrGGs, leaving the possibility of marginal favorable association only in IDHmut/codel tumors.

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