Protein 1/exportin 1 (CRM1)

Gousias et al. evaluated KPNA2 and CRM1, as well as the IDH1 mutation status, as possible novel biomarkers for World Health Organization grade III anaplastic oligoastrocytomas (AOA).

They analyzed nuclear expression of KPNA2 by immunohistochemistry in 72 primary anaplastic gliomas (29 AOA, 24 anaplastic astrocytomas, 19 anaplastic oligodendrogliomas). The IDH1 mutation status was also determined in patients with anaplastic astrocytomas and AOA, and AOA patients were additionally evaluated for CRM1 nuclear expression. Long term survivors (LTS; >8 years) with AOA showed lower KPNA2 expression levels compared to non-LTS (p=0.005). KPNA2 expression (⩾ 5% versus <5%, 1-<5%, median) was found to correlate inversely with overall survival (OS) and progression-free survival (PFS) in our overall series as well as in the AOA group (anaplastic gliomas: OS p=0.017; PFS p=0.033; AOA: OS p=0.017, PFS p=0.040). Mutant IDH1-R132H was detected in 69% of the AOA cohort; a combination of KPNA2 low expression and mutant IDH1-R132H was only seen in LTS (p=0.050). No differences between the histological subtypes were observed in terms of KPNA2 expression and IDH1-R132H mutation status. This is the first time it has been shown that KPNA2 expression may have potential as a prognostic biomarker for AOA as well [1)].

1)
Gousias K, Niehusmann P, Gielen G, Simon M, Boström J. KPNA2 predicts long term survival in patients with anaplastic oligoastrocytomas. J Clin Neurosci. 2014 Oct;21(10):1719-24. doi: 10.1016/j.jocn.2014.01.011. Epub 2014 Jun 11. PubMed PMID: 24929863.

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