Surgical resection is the primary pilocytic astrocytoma treatment and total resection can be curative.

Pilocytic astrocytoma is the most frequent pediatric glioma. Despite its overall good prognosis, complete surgical resection is sometimes unfeasible, especially for patients with deep-seated tumors. For these patients, the identification of targetable genetic alterations such as NTRK fusions raised new hope for therapy. The presence of gene fusions involving NTRK2 has been rarely reported in pilocytic astrocytoma. The aim of the study of Moreno et al. was to investigate the frequency of NTRK2 alterations in a series of Brazilian pilocytic astrocytomas.

Sixty-nine pilocytic astrocytomas, previously characterized for BRAF and FGFR1 alterations were evaluated. The analysis of NTRK2 alterations was performed using a dual-color break-apart fluorescence in situ hybridization (FISH) assay.

NTRK2 fusions were successfully evaluated by FISH in 62 of the 69 cases. Neither evidence of NTRK2 gene rearrangements nor NTRK2 copy number alterations were found.

NTRK2 alterations are uncommon genetic events in pilocytic astrocytomas, regardless of patients' clinicopathological and molecular features [1].

1)
Moreno DA, Becker AP, Scapulatempo-Neto C, Menezes W, Sheren J, Walter AM, Clara C, Machado HR, Oliveira RS, Neder L, Varella-Garcia M, Reis RM. NTRK2 gene fusions are uncommon in pilocytic astrocytoma. Mol Biol Rep. 2022 Jun 17. doi: 10.1007/s11033-022-07567-y. Epub ahead of print. PMID: 35713800.