## Peginterferon alfa-2a for craniopharyngioma treatment

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Children with craniopharyngiomas (CPs) typically suffer from a life-long chronic disease. The younger the child, the more vulnerable the maturing brain is to invasive therapies such as surgery or radiotherapy. Therefore, treatment modalities facilitating avoidance or delay of invasive therapies are beneficial for these patients. In the last decade, intracystic injection of interferon alfa-2a or alfa-2b evolved as a treatment of choice based on efficacy and minor toxicity. However, the drug is no longer available internationally. After an extensive pharmacological review, peginterferon alfa-2a was identified as the agent with closest similarity.

Methods: A retrospective case series is described, including five patients treated with intracystic peginterferon alfa-2a for cystic CP according to an innovative care protocol. After initial CP cyst aspiration, peginterferon alfa-2a was injected once per week via an Ommaya reservoir for 6 weeks followed by response assessment with MRI.

Results: Patients' age ranged from 4 to 54 years (four patients <12 years, one adult patient). Intracystic therapy with peginterferon alfa-2a was tolerated well by all five individuals without any major toxicities and resulted in cyst shrinkage in all of the five patients. The importance of a permeability study prior to commencing intracystic therapy became apparent in one patient who suffered from cyst leakage.

Conclusions: Intracystic treatment with peginterferon alfa-2a was found to be a tolerable and efficacious treatment modality in patients with cystic CP. This experience warrants further research with a larger number of patients with measurement of long-term efficacy and safety outcomes <sup>1)</sup>

Hedrich C, Patel P, Haider L, Taylor T, Lau E, Hook R, Dorfer C, Roessler K, Stepien N, Lippolis MA, Schned H, Koeller C, Mayr L, Azizi AA, Peyrl A, Lopez BR, Lassaletta A, Bennett J, Gojo J, Bartels U. Feasibility, tolerability, and first experience of intracystic treatment with peginterferon alfa-2a in patients with cystic craniopharyngioma. Front Oncol. 2024 Jul 10;14:1401761. doi: 10.3389/fonc.2024.1401761. PMID: 39050573; PMCID: PMC11266088.

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Last update: 2025/03/24 09:15

