Craniopharyngioma endoscopic endonasal approach Indications

- The Evolution of Endoscopic Skull Base Surgery Outcomes: Defining the Edge of the Envelope
- Geographic Disparities in the Proliferation of Minimally Invasive Approaches for Sellar/Parasellar Lesions
- Interdisciplinary Management of Skull Base Tumors
- Endoscopic endonasal pituitary sacrifice for select tumors with retrochiasmatic and/or retrosellar extension: surgical anatomy, operative technique, and case series
- Surgical outcomes and follow-up results of 53 pediatric craniopharyngioma cases: a single-center study
- Systematic review of transcranial and endoscopic endonasal approaches for craniopharyngiomas in children: is there an evolution?
- Endoscopic Endonasal Transtuberculum Approach for Pediatric Tuberoinfundibular Craniopharyngioma: 2-Dimensional Operative Video
- Endoscopic endonasal approach to remove pediatric intraventricular tumors of the third ventricle

The endoscopic endonasal approach (EEA) for craniopharyngiomas has proven to be a safe option for extensive tumor resection, with minimal or no manipulation of the optic nerves and excellent visualization of the superior hypophyseal artery branches when compared to the Transcranial Approach (TCA). However, there is an ongoing debate regarding the criteria for selecting different approaches. To explore the current results of EEA and discuss its role in the management of craniopharyngiomas, Figueredo et al. performed MEDLINE, Embase, and LILACS searches from 2012 to 2022. Baseline characteristics, the extent of resection, and clinical outcomes were evaluated. Statistical analysis was performed through an X2 and Fisher exact test, and a comparison between quantitative variables through a Kruskal-Wallis and verified with post hoc Bonferroni. The tumor volume was similar in both groups (EEA 11.92 cm3, -TCA 13.23 cm3). The mean follow-up in months was 39.9 for EEA and 43.94 for TCA, p = 0.76). The EEA group presented a higher visual improvement rate (41.96% vs. 25% for TCA, p < 0.0001, OR 7.7). Permanent DI was less frequent with EEA (29.20% vs. 67.40% for TCA, p < 0.0001, OR 0.2). CSF Leaks occurred more frequently with EEA (9.94% vs. 0.70% for TCA, p < 0.0001, OR 15.8). Recurrence rates were lower in the EEA group (EEA 15.50% vs. for TCA 21.20%, p = 0.04, OR 0.7). The results demonstrate that, in selected cases, EEA for resection of craniopharyngiomas is associated with better results regarding visual preservation and extent of tumor resection. Postoperative cerebrospinal fluid fistula rates associated with EEA have improved compared to the historical series. The decision-making process should consider each person's characteristics; however, it is noticeable that recent data regarding EEA justify its widespread application as a first-line approach in centers of excellence for skull base surgery [1].

The extended endoscopic endonasal approach allows successful removal of the craniopharyngioma and poses little risk to surrounding neurovascular structures [2]

1)

Figueredo LF, Martínez AL, Suarez-Meade P, Marenco-Hillembrand L, Salazar AF, Pabon D, Guzmán J, Murguiondo-Perez R, Hallak H, Godo A, Sandoval-Garcia C, Ordoñez-Rubiano EG, Donaldson A, Chaichana KL, Peris-Celda M, Bendok BR, Samson SL, Quinones-Hinojosa A, Almeida JP. Current Role of Endoscopic Endonasal Approach for Craniopharyngiomas: A 10-Year Systematic Review and Meta-

Analysis Comparison with the Open Transcranial Approach. Brain Sci. 2023 May 23;13(6):842. doi: 10.3390/brainsci13060842. PMID: 37371322.

2)

Khalil W, Salle L, Bresson D, Salle H. Extended endoscopic transsphenoidal approach for suprasellar craniopharyngiomas. Acta Neurochir (Wien). 2023 Mar;165(3):677-683. doi: 10.1007/s00701-022-05423-3. Epub 2022 Dec 3. PMID: 36460851.