Papillary Craniopharyngioma

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- Lactate levels during anesthesia in patients undergoing craniopharyngioma surgery
- Surgical strategies in pediatric craniopharyngioma-really a "pendulum" of surgical radicality or rather an evolution towards preserving the long-term quality of life?
- Skull base surgery via extended endoscopic endonasal approach: predictors of ear-nose-throat complications
- Quality of life in pediatric patients treated with adjuvant proton radiation for craniopharyngiomas
- The management of hypothalamic obesity in craniopharyngioma
- Regarding "Neuroendocrine Deficits and Weight Development Before and After Proton Therapy in Children With Craniopharyngioma" by Bischoff et al
- Prolactin serum concentrations in childhood-onset craniopharyngioma patients
- Machine learning method based on radiomics help differentiate posterior pituitary tumors from pituitary neuroendocrine tumors and craniopharyngioma

Papillary craniopharyngioma (PCP) is a rare type of tumor, comprising ~20% of all craniopharyngioma (CP) cases. It is now recognized as a separate pathological entity from the adamantinomatous craniopharyngioma type.

PCPs are different from ACPs regards the clinical features, operative techniques and outcomes. If necessary, PCPs are suggested more amenable to total removal since its less invasiveness to the 3rd V floor and better hypothalamic outcomes [1)]

PCPs are benign tumors, classified as WHO grade 1, characterized by non-keratinizing squamous epithelium. They typically grow as solid and round papillomatous masses or as unilocular cysts with a cauliflower-like excrescence. PCPs primarily occur in adults (95%), with increased frequency in males (60%) and predominantly affect the hypothalamus. Over 80% of these tumors are located in the third ventricle, expanding either above an anatomically intact infundibulum (strictly third ventricle tumors) or within the infundibulo-tuberal region of the third ventricle floor. Clinical manifestations commonly include visual deficits and a wide range of psychiatric disturbances (45% of patients), such as memory deficits and odd behavior. MRI can identify up to 50% of PCPs by the presence of a basal duct-like recess. Surgical management is challenging, requiring complex approaches to the third ventricle and posing significant risk of hypothalamic injury. The endoscopic endonasal approach allows radical tumor resection and yields more favorable patient outcomes. Of intriguing pathogenesis, over 90% of PCPs harbor the somatic BRAFV600E mutation, which activates the mitogen-activated protein kinase (MAPK/ERK) signaling pathway. A phase 2 clinical trial has demonstrated that PCPs respond well to BRAF/MEK inhibitors. This comprehensive review synthesizes information from a cohort of 560 well-described PCPs and 99 large CP series including PCP cases published from 1856-2023 and represents

the most extensive collection of knowledge on PCPs to date [2)]

1)
Yang L, Liu Y, Wang C, Feng Z, Yu L, Pan J, Peng J, Nie J, Zhou M, Ou Y, Liu T, Qi S, Fan J. Distinction of papillary and adamantinomatous craniopharyngioma: Clinical features, surgical nuances and hypothalamic outcomes. Neoplasia. 2024 Oct 1;57:101060. doi: 10.1016/j.neo.2024.101060. Epub ahead of print. PMID: 39357265.
2)
Prieto R, Juratli TA, Bander ED, Santagata S, Barrios L, Brastianos PK, Schwartz TH, Pascual JM. Papillary Craniopharyngioma: an integrative and comprehensive review. Endocr Rev. 2024 Oct 1:bnae028. doi: 10.1210/endrev/bnae028. Epub ahead of print. PMID: 39353067.