Craniopharyngioma treatment

Historically, aggressive surgical resection was the treatment goal to minimize the risk of tumor recurrence via open transcranial midline, anterolateral, and lateral approaches, but could lead to clinical sequela of visual, endocrine, and hypothalamic dysfunction. However, recent advances in the endoscopic endonasal approach over the last decade have mostly supplanted transcranial surgery as the optimal surgical approach for these tumors. With viable options for adjuvant radiation therapy, targeted medical treatment, and alternative minimally invasive surgical approaches, the management paradigm for craniopharyngiomas has shifted from aggressive open resection to more minimally invasive but maximally safe resection, emphasizing quality of life issues, particularly in regards to visual, endocrine, and hypothalamic function. [1].

Multimodal management of craniopharyngiomas seems to provide a better rate of survival and greater long-term disease control. It is suggested that GKS combined with adjuvant neuroendoscopy should be used as an alternative in treating recurrent or residual craniopharyngiomas if additional microsurgical removal cannot guarantee a cure [2].

Surgery

see Craniopharyngioma surgery

Intensity modulated radiation therapy (IMRT)

IMRT is a viable treatment option for pediatric craniopharyngioma. Despite the use of IMRT, the majority of the craniopharyngioma patients experienced long-term toxicity, many of which present prior to radiotherapy. Limitations of retrospective analyses on small patient cohort elicit the need for a prospective multi-institutional study to determine the absolute benefit of IMRT in pediatric craniopharyngioma [3].

Proton beam therapy

Currently there is no clear evidence that proton beam therapy will improve survival or reduce morbidity for children with craniopharyngioma. However, proton therapy has the potential to reduce RT dose to the Circle of Willis, which may reduce the risk of future cerebrovascular complications. We propose that more resources should be allocated to ensuring these patients are managed by experienced multidisciplinary teams through the continuum from diagnosis to long-term follow-up [4].

see also Phosphorus 32 for craniopharyngioma.

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