Rathke's cleft cyst recurrence

The aim of a meta-analysis was to pool the current literature and ascertain the Rathke's cleft cyst (RCC) recurrence control afforded by GTR of the cyst wall compared with subtotal resection (STR). Searches of seven electronic databases from inception to January 2019 were conducted following PRISMA guidelines, resulting in 476 articles to be screened. Outcomes were analyzed using meta-analysis of proportions. A total of 10 retrospective cohort studies satisfied selection criteria, describing 655 surgically managed RCC cases, with 254 (39%) and 401 (61%) achieving GTR and STR of the cyst wall, respectively. GTR was associated with significantly reduced overall RCC recurrence by fixed-effects (FE) modeling (RR, 0.66; 95% CI, 0.45-0.96), but not by random effects (RE) modeling (RR, 0.75; 95% CI, 0.51-1.12). Based on both models, GTR was associated with significantly reduced symptomatic recurrence (RE model, RR, 0.37, 95% CI, 0.14-0.95) and significantly increased postoperative diabetes insipidus (RE model, RR, 2.60; 95% CI, 1.34-5.03). There was insufficient data to evaluate other pituitary axes in this context. The current evidence indicates that GTR of the RCC cyst wall has the potential to affect the incidence of overall and symptomatic RCC recurrences, as well as drive postoperative DI incidence. However, expectations of clinical and pragmatic benefit following cyst wall resection should be titrated carefully against the potential for postoperative and pituitary morbidities which currently remain poorly defined. Greater granularity is required to understand all factors that can influence recurrence and quality of life when evaluating resection of RCC [1].

Treatment

Reoperation for RCCs is generally safe at tertiary pituitary centers and often results in improved vision. Hypopituitarism is less likely to improve following reoperation for recurrent RCCs. Several histopathological features may help characterize “atypical RCCs” with a higher likelihood of recurrence/progression [2].

Case series

Eighteen patients underwent 21 RCC reoperations with a mean follow-up of 58 mo. Patient symptoms prior to reoperation included headaches (14, 66.7%) and vision loss (12, 57.1%). Thirteen of 18 patients (72.2%) required hormone supplementation prior to reoperation including 5 with diabetes insipidus (DI). Mean RCC diameter was 16 mm and 76% had suprasellar extension. Compared to index RCC cases, intraoperative cerebrospinal fluid leak repair was more common in reoperation cases (15/21, 71% vs 43/91, 47%, P = .05). There was 1 carotid artery injury without neurological sequelae, and 2 postoperative cerebrospinal fluid (CSF) leaks (9.5%). Rates of transient hyponatremia (3/10, 30% vs 4/91, 4.4%, P = .04) and transient DI (5/10, 50% vs 17/91, 18.7%, P = .04) were higher in the reoperation vs index group. Improved headaches and vision were reported in 4/12 (33%) and 8/12 (61.5%) of RCC reoperation patients, respectively. Two patients developed new permanent DI. A higher proportion of reoperation patients had RCC squamous metaplasia (24% vs 5.4%, P = .02) or wall inflammation (42.9% vs 2.2%, P < .001) on pathological examination [3].

1)
Lu VM, Ravindran K, Perry A, Graffeo CS, Dawood HY, Van Gompel JJ, Mekary RA, Smith TR. Recurrence of Rathke's cleft cysts based on gross total resection of cyst wall: a meta-analysis. Neurosurg Rev. 2019 Apr 30. doi: 10.1007/s10143-019-01107-2. [Epub ahead of print] Review.

PubMed PMID: 31041618.
[2] [3]
Wedemeyer MA, Lin M, Fredrickson VL, Arakelyan A, Bradley D, Donoho DA, Hurth KM, Weiss MH, Carmichael JD, Zada G. Recurrent Rathke's Cleft Cysts: Incidence and Surgical Management in a Tertiary Pituitary Center over 2 Decades. Oper Neurosurg (Hagerstown). 2018 Sep 22. doi: 10.1093/ons/opy258. [Epub ahead of print] PubMed PMID: 30247673.