Endoscopic Endonasal Approach to Cholesterol Granulomas of the Petroux Apex: A Series of 15 Patients

Alessandro Paluzzi MD; Juan Carlos Fernandez-Miranda; Maria Koutourousiou MD; Matthew Tormenti; Paul A. Gardner MD; Carl Snyderman MD

Skull Base Center, University of Pittsburgh Medical Center, Pittsburgh PA

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Introduction

The treatment of cholesterol granulomas (CGs) involves draning the cyst content and establishing a permanent aeration of the cavity. Traditional approaches include the translabyrinthine, infracochlear, infralabyrinthine, suboccipital and transphenoidal routes.

Methods

Fifteen cases were identified out of a database of more than 1600 patients who underwent an endoscopic endonasal approach to skull base lesions at our institution from 1998 to 2010. Their clinical outcomes were reviewed and compared to previous series of open approaches.

Results

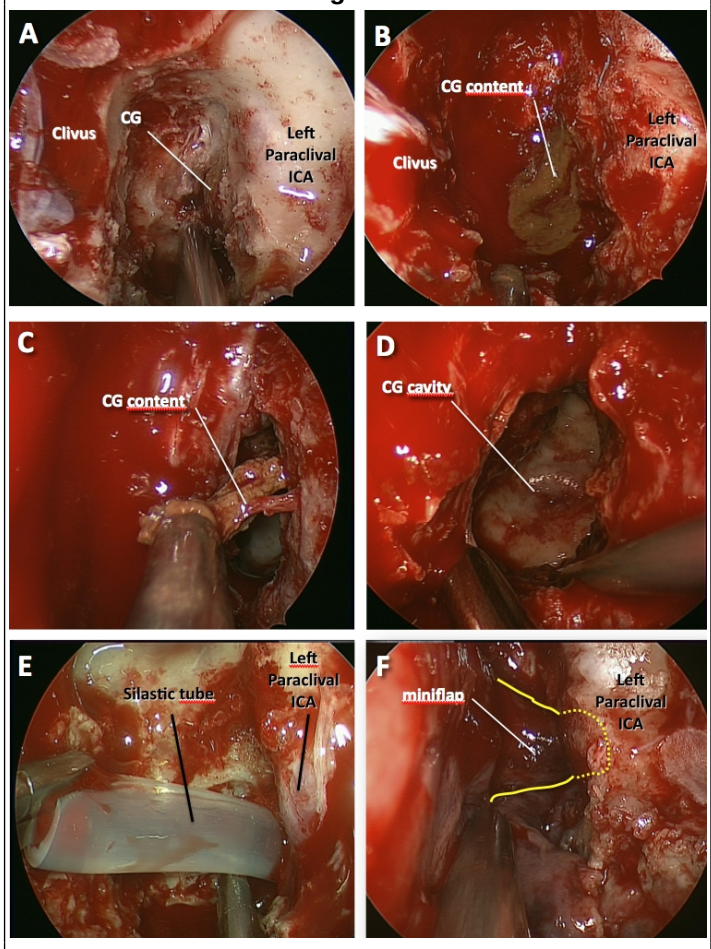
Seven patients underwent a transclival approach and 8 patients a combined transclival and infrapetrous approach. A silastic stent was used in 9 patients (60%), a miniflap in 3 (20%), and a simple marsupialization of the cyst was employed in the remaining 3 patients (20%). All symptomatic patients had partial or complete improvement of their symptoms post-operatively and at follow up (mean follow up was 22 months (range 3-67). Two patients (13%) developed complications including epistaxis, chronic serous otitis media and eye dryness. Two patients (13%) had a symptomatic recurrence of the cyst requiring repeat endoscopic endonasal drainage. There were no instances of ICA injuries, CSF leaks, new hearing loss or new cranial neuropathies in this series. The mean post-operative hospital stay was 2 days (range 1-5). These results were comparable to previous series of open approaches to petrous apex cholesterol granulomas.

There was a strong correlation between the size of the cyst and type of approach chosen (Rpb = +0.75, P = 0.0006) and between the degree of medial extension (defined by the v-angle) and the choice of approach (Rpb = +0.72, P = 0.0012). Based on these observations an algorithm for guiding the choice of the most appropriate route of drainage is suggested.

Conclusions

The expanded endoscopic endonasal approach is a safe and effective alternative to traditional open approaches to petrous apex cholesterol granulomas.

Figure 1



A: Transclival approach to the petrous apex. B: the CG has been punctured and its typical content discharged into the operating field. C: the solid wall of the “cyst” can be removed through gentle suction. D: view into the CG cavity with a 45 degrees angled endoscope. E: a Silastic tube has been inserted into the CG cavity F: the nasal septal flap has been harvested and rotated to cover the clivus; a small portion of the flap (miniflap) has been used to line the CG cavity (dotted line)