Presentation, Treatment, and Outcomes of Schwannomas of the Retropharyngeal Space (RPS): A Review of the Literature

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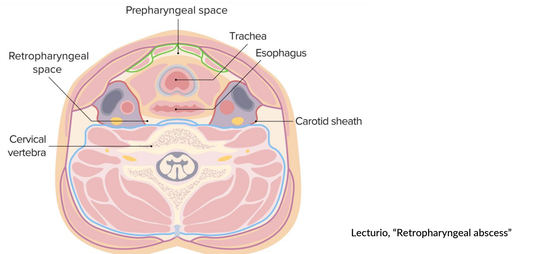
Background

The retropharyngeal space (RPS) is a potential space bounded anteriorly by the buccopharyngeal fascia and posteriorly by the prevertebral fascia. RPS pathology may include abscesses, hematomas, HNC metastases, and tumors. There is a need for increased understanding of retropharyngeal tumors as they are rare and often present with nonspecific symptoms, with the RPS difficult to examine clinically, making diagnosis and management complex.



Lecturio, "Retropharyngeal abscess"

The RPS is commonly accessed via the transoral approach or the transcervical approach. In a transoral approach, the mouth is opened using a retractor and a mucosal incision is made over the tumor bulging. The transcervical approach typically begins with a skin incision along the anterior border of the SCM. The carotid sheath is identified. Dissection proceeds medially until the prevertebral fascia is reached; it is incised to access the RPS. Further dissection is guided by palpation of the lesion.

Objective

Characterize typical symptomatology, diagnostic methods, surgical approaches, and outcomes.

Methods

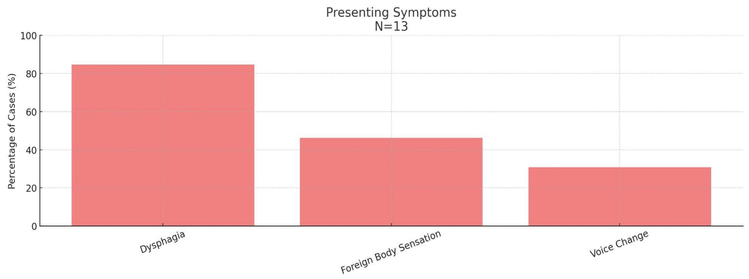
Following PRISMA guidelines, a systematic search was conducted using PubMed, Embase, and SCOPUS to identify case reports.

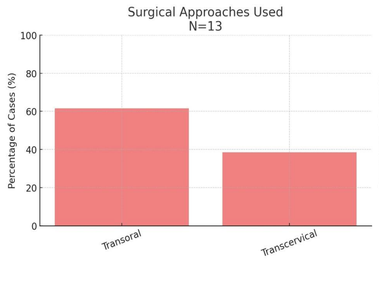
- Search terms included “schwannoma”, “neurinoma”, and “retropharyngeal”.
- Exclusion criteria included lack of clinical detail, being unavailable in English, or describing a schwannoma occurring in related but different anatomical spaces (i.e. parapharyngeal space).
- Following PRISMA guidelines, 2 reviewers independently screened articles and extracted results.

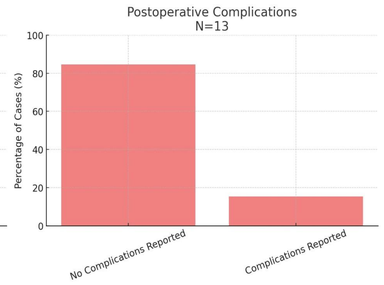
Results

13 cases of RPS schwannoma in the English literature were included.

- Most common presenting symptom was dysphagia (N=11), followed by foreign body sensation (N=6) and voice change (N=4)
- Less commonly, patients presented with snoring (N= 2), stertor or abnormal breathing sounds (N=1), breathlessness (N= 1), postnasal drip (N= 1), and odynophagia (N=1). Significant weight loss, and neck swelling were also reported in one case
- Average age of presentation was 39 years (range 16-77) and most patients were male (N=8)
- MRI was the most common imaging method (N=11); average reported size on MRI was 0.8 x 2.77 x 4.47 cm (AP by TR by CC)
- The most common method of excision was transoral (N=8) while some cases utilized a transcervical or combined approach (N=5). One case specifically employed the Smith-Robinson approach. One case employing a transcervical approach required a mandibulotomy due to anatomy of the tumor.
- Most patients reported no complications and had complete resolution of symptoms following treatment (N=12).
- Complications included a patient who developed postoperative dyspnea requiring a tracheotomy, and a patient whose surgery was exceptionally challenging that developed permanent Horner’s syndrome following tumor excision







Discussion

Our review suggests retropharyngeal schwannomas are typically amenable to transoral resection with a low risk of complications.

- Most commonly present with dysphagia or impaired phonation, but can also present with snoring and breathing changes. Only one case of systemic symptoms was seen
- Most surgeries were uneventful, although two cases of reported complications, including the serious, permanent complication of ipsilateral Horner’s Syndrome were documented
- No cases of recurrence were documented
- Due to the limited sample size and low event rate of complications, a clear association between anatomical features (i.e. tumor size) and choice of surgical approach (transoral versus transcervical) and postoperative complication risk could not be established. Additionally, tumor dimensions were not reported in all case reports.
- The literature remains inconclusive as to if the transoral or transcervical approach is optimal for excising retropharyngeal tumors. Transcervical approaches provide good exposure and control around neurovascular structures, but may be associated with complications such as severe bleeding. Transoral approaches are an alternative for reduced morbidity but may provide inadequate visualization in larger or laterally displaced tumors.

Conclusion

Although very rare, retropharyngeal tumors should be considered in the differential diagnosis of patients presenting with isolated dysphagia, neck masses, or upper airway obstruction. Early diagnosis and management is important. Reports of additional cases could augment the limited knowledge on management of retropharyngeal tumors and help surgeons understand risk factors for perioperative complications.

References