

# From suspicion to surprise: a case of soft palate bulge diagnosed as parapharyngeal space pleomorphic adenoma

## Clinical Case

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Article received on March 4, 2026.

Accepted for publication on April 21, 2026.

### Abstract

**Introduction:** Parapharyngeal space (PPS) tumors are rare and often present diagnostic challenges due to their deep anatomical location and nonspecific symptoms. Pleomorphic adenomas in this region are very rare, and when unrelated to the parotid gland, they can mimic malignancies.

**Case Presentation:** A 51-year-old male presented with a 9-month history of progressive right-sided soft palate swelling, dysphagia, and hot potato voice. MRI revealed a solid-cystic mass in the prestyloid PPS, radiologically suspicious for malignancy and separate from the parotid gland. The lesion was excised via transoral endoscopic approach. Histopathology confirmed pleomorphic adenoma. Recovery was uneventful, with no recurrence on follow-up.

**Conclusion:** Pleomorphic adenomas of the PPS can mimic malignancy clinically and radiologically. Complete surgical excision via a transoral endoscopic approach can be safe and effective in selected patients. Histopathological confirmation is essential to guide management.

**Keywords:** Parapharyngeal space, pleomorphic adenoma, transoral excision, salivary gland tumor, soft palate swelling, benign neoplasm

### Introduction

Pleomorphic adenoma is the most common benign salivary gland tumor, typically arising from the parotid gland. Tumors originating in the parapharyngeal space (PPS), especially those unrelated to the parotid gland, are exceedingly rare. PPS tumors account for less than 1% of all head and neck neoplasms. Due to their deep-seated nature and variable clinical presentation, they are often misdiagnosed or suspected to be malignant. This report highlights a case of a PPS tumor that presented as a soft palate bulge and was radiologically

suspicious for malignancy, but histopathology revealed a benign pleomorphic adenoma unassociated with the parotid gland.

### Patient Information

- Patient: 51-year-old male
- Chief complaint: Right-sided soft palate swelling with progressive dysphagia and change in voice over 9 months
- Medical history: No known comorbidities
- Medications: None
- Family history: Nothing significant
- Lifestyle: Non-smoker, no alcohol use

### Clinical Findings

On intraoral examination, a smooth, non-tender, non-ulcerated bulge was seen on the right soft palate with intact mucosa. No cervical lymphadenopathy was detected. No cranial nerve deficits were present.

### Timeline

#### Diagnostic Assessment

MRI Findings: A 5.2 × 6.9 cm well-circumscribed, solid-cystic lesion was identified in the right prestyloid PPS, with medial displacement of oropharyngeal structures. The lesion was clearly separate from the parotid gland. Signal characteristics and deep location raised suspicion of malignancy.

#### Differential Diagnoses Considered:

- Mucoepidermoid carcinoma
- Adenoid cystic carcinoma
- Pleomorphic adenoma (less likely initially)

#### Definitive Diagnosis:

Histopathology post-surgery revealed features consistent with pleomorphic adenoma - a benign salivary gland tumor composed of epithelial and myoepithelial elements in a myxochondroid stroma.

#### Therapeutic Intervention

The patient underwent a transoral endoscopic excision under general anesthesia. A right

paramedian curvilinear soft palate incision was made and dissection was done in layers, and the encapsulated tumor was accessed and separated from the surrounding structures and excised without any complication.

#### Intraoperative Findings:

The mass was well-encapsulated, separate from the parotid gland, and easily dissectable.

#### Follow-up and Outcomes

Postoperative course: Uneventful

Histopathology: Pleomorphic adenoma

6-month follow-up: No recurrence on clinical and imaging evaluation. The patient reported complete resolution of symptoms.

#### Figures

Figure 1: Axial T2-weighted MRI showing a well-defined, solid-cystic lesion in the prestyloid parapharyngeal space, separate from parotid gland.

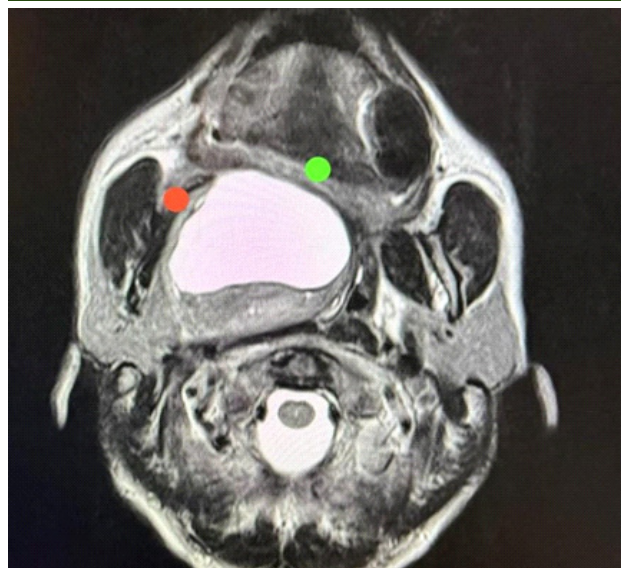
Figure 2: Intraoral view showing right-sided soft palate bulge.

Figure 3: Endoscopic intraoperative image showing encapsulated tumor during dissection.

Figure 4: Gross specimen of excised pleomorphic adenoma.

**Figure 1**

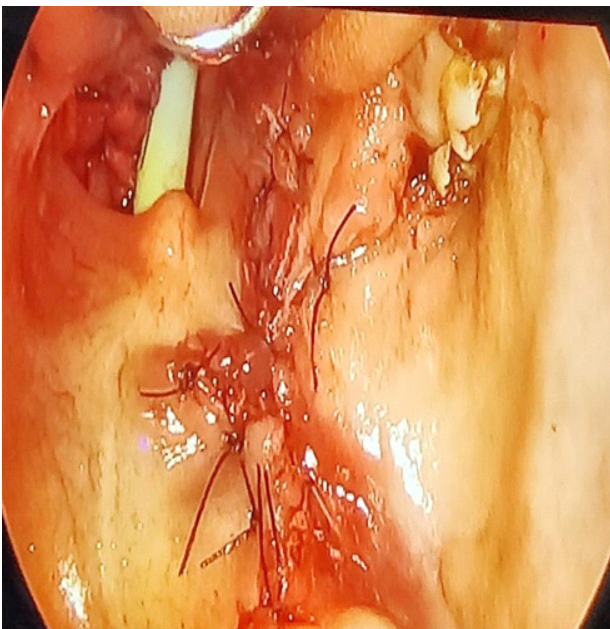
MRI scan showing a well-defined, solid-cystic lesion involving the soft palate.



**Figure 2**  
Intraoral view showing the palatal swelling on the right side.



**Figure 3**  
Endoscopic view of the encapsulated tumor during excision.



**Figure 4**  
Excised specimen of the pleomorphic adenoma post-surgery.



### Discussion

Parapharyngeal space tumors pose a diagnostic challenge due to their inaccessible location and variable presentation. While MRI provides crucial information about size, extent, and compartmental involvement, distinguishing benign from malignant tumors purely on imaging remains difficult. In this case, the lesion's deep location, radiologic characteristics, and growth raised suspicion for malignancy. The lesion was completely separate from the parotid gland, suggesting origin from minor salivary or ectopic tissue within the PPS. Surgical excision is the mainstay of treatment. The transoral approach, though traditionally avoided due to limited exposure, offers excellent access for small, medially located benign tumors with low morbidity and no external scar. Histopathology remains the gold standard for definitive diagnosis and guides long-term management.

### Patient Perspective

The patient expressed satisfaction with the outcome and relief that the tumor was benign. He noted significant improvement in swallowing and speech postoperatively and appreciated the minimally invasive approach with no visible scar.

### Conflicts of Interest

The authors declare that there is no conflict of interests regarding the publication of this paper.

### Data Confidentiality

The authors declare having followed the protocols in use at their working center regarding patients' data publication.

### Protection of humans and animals

The authors declare that the procedures were followed according to the regulations established by the Clinical Research and Ethics Committee and to the 2013 Helsinki Declaration of the World Medical Association.

### Privacy policy, informed consent and Ethics Committee Authorization

The authors declare that they have written consent for the use of photographs of patients in this article.

### Funding Sources

This work did not receive any contribution, funding or scholarship.

### Availability of scientific data

There are no datasets available, publicly related to this work.

### Declaration of generative AI and AI-assisted technologies in the writing process

During the preparation of this work, we have used chatgpt in order to paraphrase the sentences to make it grammatically correct. We have not used any AI tool for content creation. It is all original content. After using this tool/service, we the authors have reviewed and edited the content as needed and take full responsibility for the content of the publication.

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