

## **Congenital Oral Synechia in a 32-Year-Old Female: A Case Report**

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**Type of Publication:** Case Report

**Conflicts of Interest:** Nil

### **Abstract**

**Background:** Congenital oral synechia are rare developmental anomalies characterized by abnormal fibrous bands connecting oral structures, most commonly between the tongue and floor of the mouth or between the buccal mucosa and alveolar ridges. These malformations can significantly impact speech, mastication, and oral hygiene.

**Case Presentation:** We report a case of a 32-year-old female presenting with congenital oral synechia causing functional limitations in speech articulation and oral hygiene maintenance. The patient underwent surgical correction with favorable outcomes. Conclusion: Early recognition and appropriate surgical management of congenital oral synechia can significantly improve patient quality of life and prevent secondary complications.

**Keywords:** congenital oral synechia, oral malformation, surgical correction, speech therapy, Intraoral adhesions, Rare oral malformations

### **Introduction**

Congenital oral synechia represent a spectrum of developmental anomalies involving abnormal fibrous connections between oral structures. These conditions occur due to incomplete separation of embryonic tissue layers during the 6th to 12th weeks of intrauterine development.<sup>1</sup> The incidence is estimated at 1 in 15,000 to 1 in 25,000 live births, with varying degrees of severity. Common types include lingual synechia (tongue-to-floor connections), buccal synechia (cheek-to-alveolar ridge connections), and labial synechia (lip-to-gum connections).

## Case Presentation

**Patient Information:** A 32-year-old female presented to our oral and maxillofacial surgery department with chief complaints of difficulty in opening mouth, speech articulation and challenges maintaining adequate oral hygiene. The patient reported these issues had been present since birth but had become increasingly bothersome in recent years. **Clinical History** The patient presented with difficulty in mouth opening and speech articulation. Family history was negative for congenital oral anomalies or syndromic conditions. She had no history of trauma, infection, or previous oral surgery. The patient reported progressive worsening of speech clarity and increasing difficulty with dental cleaning, particularly in the posterior regions.

## Physical Examination

### Extraoral Examination



Facial symmetry was normal with no visible deformities or scars. Temporomandibular joint function was within normal limits.

### Intraoral Examination



- Restricted mouth opening was seen (18mm).
- The fibrous bands were approximately 2-3mm in width and demonstrated limited elasticity which was all over both right and left buccal mucosa.

- Oral hygiene was compromised with visible plaque accumulation in areas difficult to access due to restricted tongue movement.
- Dentition was otherwise normal with no associated dental anomalies.

**Diagnostic Assessment Imaging:** Panoramic radiography revealed normal dental and bony structures with no associated skeletal anomalies.

**Biopsy:** Biopsy revealed oral tissue with thickened surface layer, increased basal cells, dense fibrous tissue with prominent blood vessels, and degenerating muscle - findings consistent with oral synechiae.

**Speech Evaluation:** Formal speech assessment by a speech-language pathologist documented:

- Reduced tongue tip elevation affecting lingual consonants.
- Compensatory articulation patterns.
- Normal voice quality and resonance.

## Functional Assessment

Oral function evaluation revealed:

- Restricted tongue protrusion (maximum 8mm beyond incisal edges)
- Limited lateral tongue movement.
- Compromised oral cleaning ability.
- Normal swallowing function.

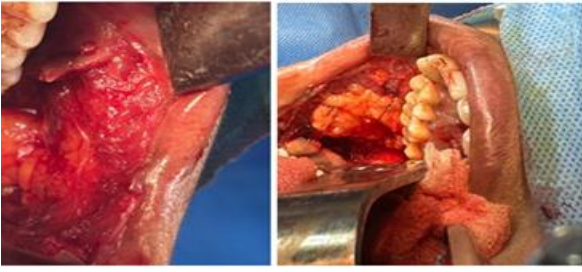
## Treatment Plan

A multidisciplinary approach was planned involving:

1. Surgical release of oral synechiae.
2. Post-operative speech therapy.
3. Enhanced oral hygiene protocol.

## Intervention

**Surgical Procedure:** Under general anesthesia, bilateral buccal synechiae release was performed using fibrotomy.4 Buccal pad of fat reconstruction was performed over the fibrotomy region. Primary closure was achieved, and bacitracin gauze dressing was applied.



### Post-operative Care

- Post operatively, antibiotics and analgesics were prescribed for 5 days.
- Chlorhexidine mouthwash 0.12% four times daily for 2 weeks.
- Soft diet for 1 week.

### Follow-up and Outcomes

**Immediate Post-operative (1 week):** Healing progressed normally with minimal discomfort. Improvement in mouth opening was observed.



### Long-term Follow-up (6 months)

- Sustained functional improvement
- Speech assessment showed marked improvement in lingual consonant production.
- Patient satisfaction scores: 9/10 for speech improvement, 8/10 for oral hygiene ease .
- No evidence of re-formation of synechia.

### Discussion

Congenital oral synechia result from failure of programmed cell death during embryonic development, leading to persistent connections between oral structures. The condition can occur in isolation or as part of syndromic presentations such as popliteal pterygium syndrome or van der Woude syndrome.<sup>5</sup> The functional

impact varies depending on the location, thickness, and number of synechia.<sup>6</sup> Common complications include speech articulation disorders, compromised oral hygiene leading to periodontal disease, restricted dietary choices, and psychosocial effects related to appearance and function. Surgical management remains the gold standard for symptomatic cases.<sup>7</sup> The timing of intervention depends on functional impact, with early correction recommended to prevent compensatory patterns and secondary complications. Key surgical principles include complete release of restricting bands while preserving normal anatomy and preventing recurrence through appropriate wound management. Post-operative speech therapy is crucial for optimal outcomes, helping patients develop normal articulation patterns and maximize functional gains.<sup>8</sup> Long-term follow-up is essential to monitor for recurrence and ensure sustained functional improvement.

### Conclusion

This case demonstrates the successful management of congenital oral synechia in an adult patient through surgical correction and multidisciplinary care. Early recognition and appropriate treatment can significantly improve functional outcomes and quality of life. The case highlights the importance of individualized treatment planning and the value of multidisciplinary collaboration in managing complex oral anomalies. **Patient Consent:** Written informed consent was obtained from the patient for publication of this case report and accompanying images.

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