โรงพยาบาลขอนแก่น
KHON KAEN HOSPITAL

Long-term Speech and Resonance Outcomes of Children with Unilateral Cleft Lip and Palate Born During the COVID-19 Pandemic: A Case Series from Northeast Thailand

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1. BACKGROUND

- COVID-19 disrupted cleft care worldwide.
- Surgical access became limited.
- Early intervention was interrupted.
- Follow-up continuity declined.
- Long-term outcomes remain unclear.

2. OBJECTIVE

- Describe 2026 speech outcomes.
- Compare resonance profiles.
- Examine therapy and hearing influences.
- Explore structural complications.

3. METHODS

Design

- Retrospective case series.

Participants

- 3 pediatric patients with Left UCLP.
- Ages 5–6 years.

Assessments

- Hypernasality
- Nasal emission
- Speech intelligibility
- Articulation
- Oral-motor function
- Audiological review

4. CASE COMPARISON MATRIX

Parameter	CASE 1	CASE 2	CASE 3
Age (2026)	6y 4m	6y 4m	5y 3m
Primary Palatoplasty	Jun 22, 2021	Feb 16, 2021	Jun 30, 2022 (Surgical Delay)
Therapy Adherence	High	Moderate	Low
Speech Therapy Sessions	18 sessions (by early 2022)	16 sessions (by mid-2021)	7 sessions (by late 2024)
Audiological Progression	Suspected Normal Hearing (25–30 dB)	Normal Hearing (Type A) in 2021 → Late-onset Bilateral Conductive Hearing Loss (Type B) by late 2025; → 2nd myringotomy	Normal Hearing (Type As)
Tympanogram	—	Type A → Type B	Type As
Comorbidities	None	None	Iron Deficiency Anaemia (IDA)
Structural Complications	None	None	Post-op Oronasal Fistula (OAC) 3x1 mm at hard palate
Historical Hypernasality	0	+1 (Mild)	+2 (Severe in 2024)
Current Hypernasality (2026)	0 (Normal)	+1 (Mild)	0 (Normal)
Current Nasal Emission (2026)	0 (None)	+1 (Intermittent)	+1 (Intermittent)
Language Output (2026)	Competent sentences	Inconsistent sentences	Words / Phrases only (Comprehension 50%)
Articulation	Mild	Moderate	Severe
Speech Intelligibility	Fair	Poor	Poor
Oral-Motor Function (ROM)	Adequate / Partial ROM	Adequate / Partial ROM	Adequate / Partial ROM

5. CLINICAL TIMELINE OVERVIEW

CASE 1
Jun 22, 2021 Palatoplasty → Early intensive therapy (18 sessions by early 2022) → Stable hearing (Suspected Normal Hearing) → 2026 Outcomes: Normal resonance, No nasal emission, Fair intelligibility

CASE 2
Feb 16, 2021 Palatoplasty → Early therapy (16 sessions by mid-2021) → 2021 Normal hearing (Type A) → Late 2025 Bilateral CHL (Type B) 2nd myringotomy → 2026 Outcomes: Mild hypernasality, Intermittent NE, Poor intelligibility

CASE 3
Jun 30, 2022 Palatoplasty (Surgical Delay) → Limited therapy (7 sessions by late 2024) → Post-op Oronasal Fistula (OAC) 3x1 mm → 2026 Outcomes: Hypernasality 0, Intermittent NE, Words & phrase only, Poor intelligibility

6. DISCUSSION

Case 1: Optimal Outcome

- High therapy adherence.
- Stable hearing.
- Normal resonance achieved.
- No nasal emission.
- Better speech intelligibility.

Case 2: Late-Onset Audiological Barrier

- Normal hearing early (Type A).
- Developed bilateral CHL (Type B) by late 2025.
- Fluctuating hearing affected articulation.
- Mild resonance deficits persisted.

Case 3: Structural and Pandemic-Related Complexity

- Significant surgical delay.
- Limited therapy exposure.
- Post-op OAC 3x1 mm persists.
- Hypernasality resolved to 0.
- Intermittent nasal emission (+1) due to OAC.
- Restricted language output.
- Poor speech intelligibility.

7. CONCLUSION

- Outcomes were highly heterogeneous.
- Early therapy is protective.
- Stable hearing supports better outcomes.
- Structural complications worsen communication.
- Long-term follow-up remains essential.

8. CLINICAL IMPLICATIONS

- ✓ Continue audiological surveillance.
- ✓ Monitor late-onset hearing changes.
- ✓ Ensure early intervention access.
- ✓ Evaluate persistent fistulas carefully.

9. ETHICAL NOTE

Patient privacy strictly protected. All identifiers completely de-identified per international ethical and privacy standards.

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Study Population
3 pediatric UCLP patients managed during 2020–2022

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