EARLY MANAGEMENT OF ASPIRATION PNEUMONIA IN AN INFANT WITH SUSPECTED LARYNGOMALACIA IN A RESOURCE-LIMITED SETTING: A CASE REPORT

Angelica Diana Vita[1], Muhammad Hanun Mahyuddin[1], Dian Saraswati[2]

[1]Medical Program, Faculty of Medicine, Universitas Airlangga, Surabaya, Indonesia
[2]Department of Pediatric, Sakinah Islamic Hospital, Mojokerto, East Java, Indonesia

ABSTRACT

Laryngomalacia is the most common cause of congenital stridor in infants and can lead to feeding difficulties, failure to thrive, and respiratory distress. Diagnosis typically requires flexible fiberoptic laryngoscopy, which more often than not, not available in resource-limited settings. We report a 12-day-old male infant who presented to the emergency department with apnea following a choking episode. He required cardiopulmonary resuscitation and was admitted to the neonatal intensive care unit. Clinical findings included chest retractions, cyanosis, weight loss (from 3500g at birth to 2700g), and feeding difficulties. Chest radiograph showed right-sided perihilar infiltrates consistent with aspiration pneumonia. Despite initial clinical improvement, the infant developed new-onset positional stridor on day ten of hospitalization, particularly when supine. These findings raised strong suspicion of underlying laryngomalacia. These signs raised a strong clinical suspicion of laryngomalacia. Due to absence of flexible fiberoptic laryngoscopy, diagnosis could not be confirmed. The infant was stabilised with supportive care and feeding adjustments before being referred to a tertiary center for definitive evaluation and management. This case highlights the importance of prompt recognition and early stabilisation of neonates with aspiration-related complications and suspected airway anomalies, particularly in low-resource settings. Timely referral is essential to prevent deterioration and guide appropriate long-term management.

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Corresponding author
Angelica Diana Vita
✉
angelicadiana080@gmail.com
Medical Program, Faculty of Medicine, Universitas Airlangga, Surabaya, Indonesia

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Highlights:

1. Laryngomalacia is the most common cause of infant stridor, often leading to feeding difficulties due to the disruption of the suck-swallow-breathe sequence.
2. A twelve-day-old infant presented with respiratory distress and stridor, with suspected laryngomalacia confirmed by clinical findings and requiring further evaluation at a larger hospital.

INTRODUCTION

Laryngomalacia is one of the laryngotracheobronchitis anomalies (LTBA) associated with a higher neonatal mortality rate and represents the most common cause of infant stridor[1,2]. It is characterized by inspiratory stridor that typically worsens during feeding, crying, supine positioning, and agitation, due to the disruption of the suck-swallow-breathe sequence[3]. Symptoms usually manifest at birth or within the first few weeks of life, peak between 6 and 8 months, and generally resolve by 12 to 24 months[4]. Although most cases are mild and self-limiting, severe cases can result in feeding difficulties, weight loss, failure to thrive, and even pulmonary hypertension due to chronic hypoxia[5].

One of the most serious complications is aspiration pneumonia, which results from poor coordination of swallowing and breathing during feeding[6]. In neonates, this can present as choking, respiratory distress, or even cardiopulmonary arrest[7]. Diagnosis is confirmed via flexible fiberoptic laryngoscopy, but in resource-limited settings, this tool is often unavailable, making clinical recognition critical.

However, in resource-limited settings, access to such diagnostic tools is often unavailable, requiring clinicians to rely on clinical signs for early recognition and management.

We present a case of a neonate with aspiration pneumonia and clinical features suggestive of laryngomalacia. This case highlights the importance of emergency stabilisation and high clinical suspicion in guiding timely referral and further evaluation, especially in settings without access to specialised diagnostics.

CASE REPORT

A 12-day-old male infant was brought to the emergency department with apnea following a choking episode during breastfeeding. Cardiopulmonary resuscitation (CPR) was initiated, and return of spontaneous circulation (ROSC) was achieved after two cycles. On arrival, physical examination revealed chest retractions, central cyanosis, and significant weight loss—from a birth weight of 3500 grams to 2700 grams.

A chest radiograph (babygram) showed right-sided perihilar infiltrates with preserved phrenicocostal angles, consistent with aspiration pneumonia (Figure 1). The infant was admitted to the neonatal intensive care unit (NICU), where he received respiratory and hemodynamic support, along with empiric antibiotic therapy. Oxygen saturation and FiO_2 requirements were closely monitored throughout the NICU stay, showing a gradual trend toward improvement (Figure 2).

After nine days in the NICU, he was transferred to the pediatric ward. Despite initial clinical stability, the infant developed persistent feeding difficulties and exhibited positional stridor, particularly when lying in a supine position. These findings raised a strong clinical suspicion of laryngomalacia. Due to limitations in diagnostic resources, the patient was stabilised and referred to a tertiary center for further evaluation and management.

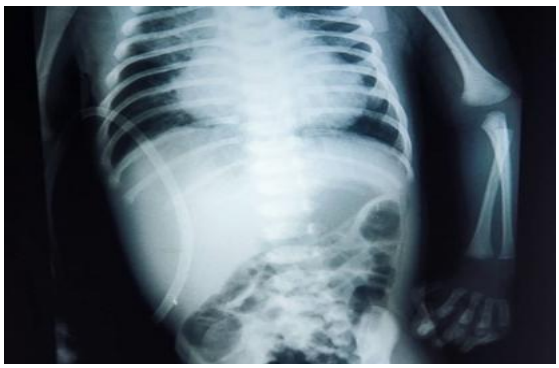

Figure 1. Babygram showing right-sided perihilar infiltrates with preserved phrenicocostal angles

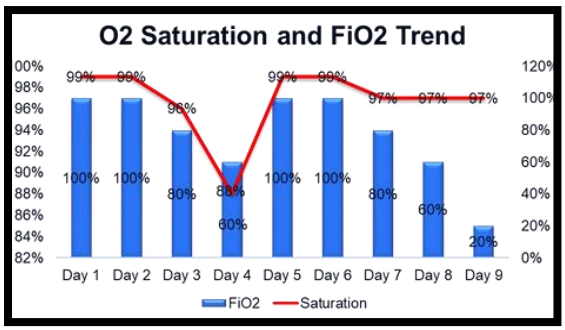

Figure 2. O2 Saturation and FiO2 Trend

DISCUSSION

Laryngomalacia, the most common congenital laryngeal anomaly, accounts for 45–75% of neonatal stridor cases. Its hallmark feature is inspiratory stridor, exacerbated by feeding, crying, agitation, or supine positioning, due to dynamic supraglottic collapse[8]. This condition often presents at birth or within the first few weeks of life, with symptoms peaking at 6–8 months and typically resolving by 12–24 months[1,8].

The clinical presentation of this 12-day-old male infant strongly suggests severe laryngomalacia, characterised by persistent feeding difficulties, positional stridor, cyanosis, and significant weight loss. The inability to coordinate breathing and swallowing during feeding is consistent with dysphagia, a common complication in laryngomalacia that leads to aspiration[9]. In this case, the choking episode during breastfeeding led to aspiration pneumonia, as evidenced by the perihilar infiltrates on imaging[10,11].

Severe laryngomalacia is defined by features such as poor weight gain, persistent respiratory distress with chest retractions, obstructive sleep apnea, and episodes of respiratory compromise during feeding[5,12]. These signs were evident in this patient, notably the marked weight loss from 3500 grams at birth to 2700 grams and the need for CPR following an apnea episode. The presence of positional stridor, particularly in the supine position, further supports the diagnosis[13,14].

In resource-limited settings, where advanced diagnostic modalities like flexible fiberoptic laryngoscopy may not be readily available, clinicians must rely on clinical presentation to suspect laryngomalacia. Although flexible laryngoscopy was not performed, the presence of positional stridor, feeding difficulties, and failure to thrive was strongly suggestive of laryngomalacia. In resource-limited settings, such clinical features may serve as valuable indicators prompting early intervention or referral.

The infant's initial stabilisation involved respiratory and hemodynamic support in the NICU, alongside antibiotics for aspiration pneumonia. Despite clinical improvement, the persistent feeding difficulties and positional stridor warranted referral to a higher-level facility for definitive diagnostic evaluation and possible intervention. Severe cases of laryngomalacia may require surgical intervention, such as supraglottoplasty, to alleviate airway obstruction and prevent recurrent aspiration, hypoxia, and failure to thrive[15,16].

This case illustrates the importance of early clinical recognition and emergency

stabilisation of neonates presenting with signs suggestive of airway obstruction, even before diagnostic confirmation. A high index of suspicion is essential in rural or resource-constrained environments to avoid delays that may lead to life-threatening complications. Moreover, it emphasizes the importance of a multidisciplinary approach, involving pediatricians, otolaryngologists, and nutrition specialists, to optimize outcomes in affected infants[17,18].

Strengths and limitations

This case underscores the crucial importance of early clinical recognition and emergency care for suspected laryngomalacia in settings without access to advanced diagnostic tools. It emphasises the role of clinical judgment in guiding stabilisation and referral. However, the diagnosis in this case was not confirmed by flexible laryngoscopy, which limited diagnostic certainty. Additionally, as a single case report without long-term follow-up, generalizability is limited, and the long-term outcome remains unknown.

CONCLUSION

A clinical diagnosis of laryngomalacia can be made based on the characteristic symptoms of inspiratory stridor and feeding issues. A definitive diagnosis of laryngomalacia can be accurately made by a single examination using flexible fiberoptic laryngoscopy in most cases.

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CONFLICT OF INTEREST

All Authors have no conflict of interest.

PATIENT CONSENT FOR PUBLICATION

Case reports must include a letter of approval for publication from the patient and his/her guardian.

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AUTHOR CONTRIBUTION

All authors have contributed to all processes in this research, including preparation, data gathering and analysis, drafting and approval for publication of this manuscript.

REFERENCES

1. Thorne MC, Garetz SL. Laryngomalacia : Review and Summary of Current Clinical Practice in 2015. Paediatric Respiratory Reviews. 2015; DOI: 10.1016/j.prrv.2015.02.002
2. Bedwell J, Zalzal G. Laryngomalacia. Seminars in Pediatric Surgery. 2016;25(3):119–22. DOI: 10.1053/j.sempedsurg.2016.02.004
3. Kusak B, Cichocka-Jarosz E, Jedynak-Wasowicz U, Lis G. Types of laryngomalacia in children: interrelationship between clinical

course and comorbid conditions. European Archives of Oto-Rhino-Laryngology. 2017;274(3):1577–83. DOI: 10.1007/s00405-016-4334-5
4. Parkes WJ, Propst EJ. Advances in the diagnosis, management, and treatment of neonates with laryngeal disorders. Seminars in Fetal and Neonatal Medicine. 2016 Aug 1;21(4):270–6. DOI: 10.1016/j.siny.2016.03.003
5. Klinginsmith M, Winters R, Goldman J. Laryngomalacia. StatPearls [Internet]. 2024; https://www.ncbi.nlm.nih.gov/books/NBK544266/
6. Irace AL, Dombrowski ND, Kawai K, Watters K, Choi S, Perez J, et al. Evaluation of Aspiration in Infants With Laryngomalacia and Recurrent Respiratory and Feeding Difficulties. JAMA Otolaryngology–Head & Neck Surgery [Internet]. 2019 Feb 1 [cited 2025 Jul 17];145(2):146–51. DOI: 10.1001/jamaoto.2018.3642
7. Bowman OJ, Hagan JL, Toruno RM, Wiggin MM. Identifying Aspiration Among Infants in Neonatal Intensive Care Units Through Occupational Therapy Feeding Evaluations. The American Journal of Occupational Therapy [Internet]. 2020 Feb 1 [cited 2025 Jul 17];74(1):7401205080p1. DOI: 10.5014/ajot.2020.022137
8. Landry AM, Thompson DM. Laryngomalacia: Disease Presentation, Spectrum, and Management. International Journal of Pediatrics. 2012;2012:1–6. DOI: 10.1155/2012/753526
9. Jaffal H, Isaac A, Johannsen W, Campbell S, El-Hakim HG. The prevalence of swallowing dysfunction in children with laryngomalacia: a systematic review. International Journal of Pediatric Otorhinolaryngology. 2020 Dec 1;139:110464. DOI: 10.1016/j.ijporl.2020.110464
10. Irace AL, Dombrowski ND, Kawai K, Watters K, Choi S, Perez J, et al. Evaluation of Aspiration in Infants with Laryngomalacia and Recurrent Respiratory and Feeding Difficulties. JAMA Otolaryngology - Head and Neck Surgery. 2019;145(2):146–51. DOI: 10.1001/jamaoto.2018.3642
11. Ha JF. Dysphagia in laryngomalacia: a prospective cohort study. Australian Journal of Otolaryngology. 2022;5. DOI: 10.21037/ajo-21-44
12. Thottam PJ, Simons JP, Choi S, Maguire R, Mehta DK. Clinical relevance of quality of life in laryngomalacia. Laryngoscope. 2016;126(5):1232–5. DOI: 10.1002/lary.25491
13. Bhatt J, Prager JD. Neonatal Stridor: Diagnosis and Management. Clinics in Perinatology. 2018;45(4):817–31. DOI: 10.1016/j.clp.2018.07.015
14. Scott BL, Lam D, MacArthur C. Laryngomalacia and Swallow Dysfunction. Ear, Nose and Throat Journal. 2019;98(10):613–6. DOI: 10.1177/0145561319847459
15. Leonard JA, Reilly BK. Laryngomalacia in the Premature Neonate. NeoReviews. 2021;22(10). DOI: 10.1542/neo.22-10-e653
16. Jain D, Jain S. Management of Stridor in Severe Laryngomalacia: A Review Article. Cureus. 2022;14(9). DOI: 10.7759/cureus.29585
17. Macedo RB, Dias MS, Salazar L, Alexandre P, Viveiros C, Pereira M, et al. Laryngomalacia and failure to thrive – A case report. Journal of Pediatric and Neonatal Individualized Medicine. 2024;13(2):e130202. https://jpnim.com/index.php/jpnim/article/view/e130202
18. Cohen O, Picard E, Joseph L, Schwartz Y, Sichel JY, Attal P. Supraglottoplasty for severe laryngomalacia. Can we predict success? International Journal of Pediatric Otorhinolaryngology. 2020;138(May):110333. DOI: 10.1016/j.ijporl.2020.110333