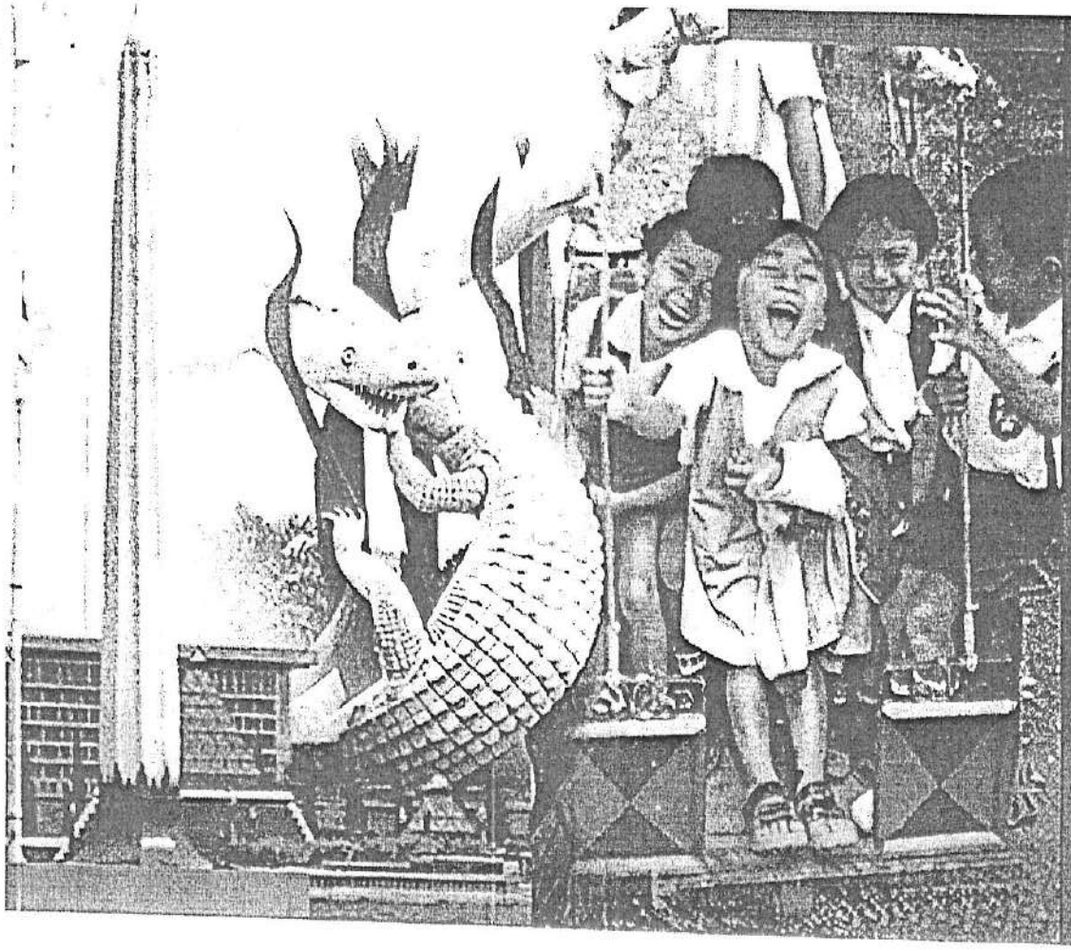

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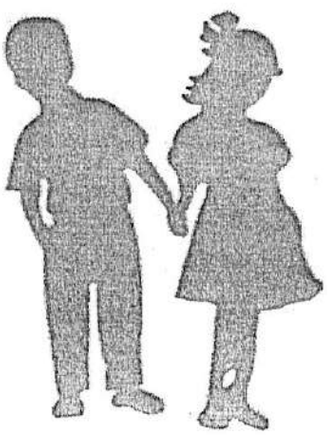


14th INDONESIAN CONGRESS OF PEDIATRICS

KONIKA

SURABAYA - INDONESIA, 5 - 9 JULY 2008

Theme: Competence-Based Profesionalism In Pediatrics

PROCEEDINGS OF 14th KONIKA

YOUNG RESEARCHER AWARD

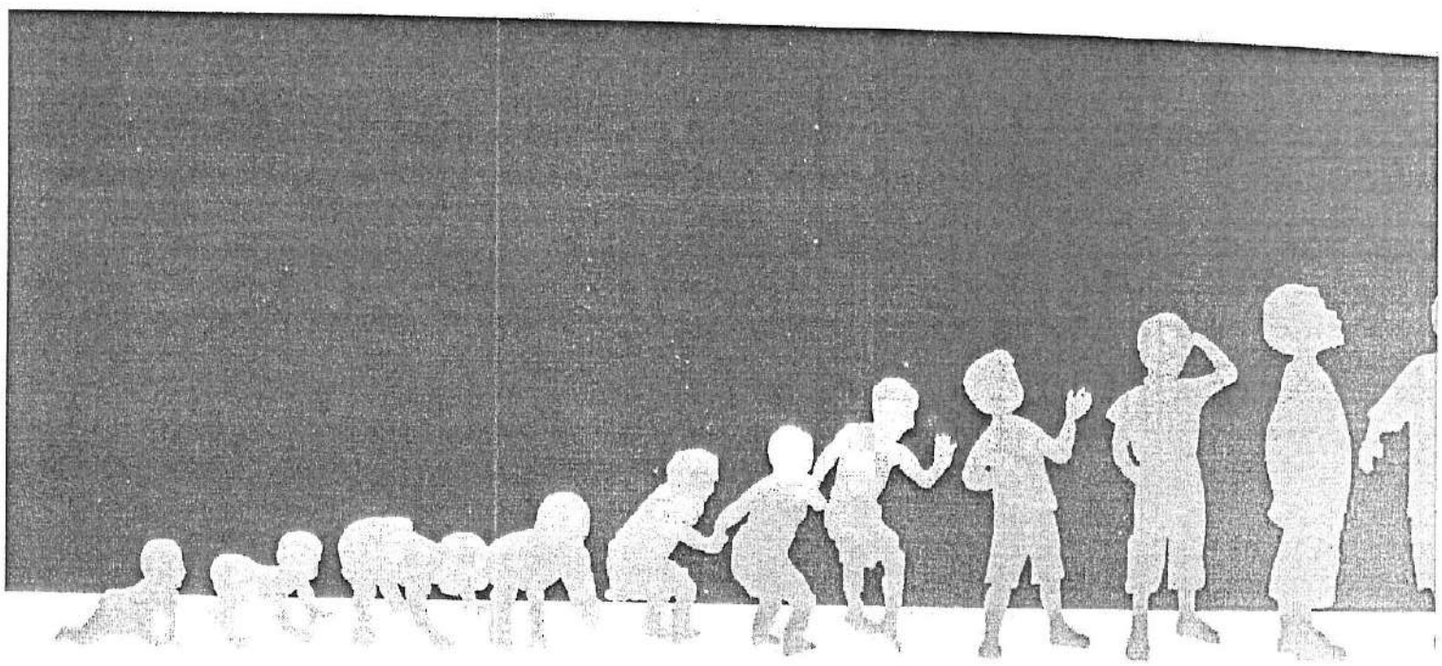
Library of Congress Cataloging -- Publication Data

PROCEEDINGS OF 14th INDONESIAN CONGRESS OF PEDIATRICS (KONIKA)

Young Researcher Award

ISBN: 978-979-18092-1-4

Published by:
Indonesian Pediatric Society (IPS/IDAI) - East Java Branch
Department of Pediatrics, Medical Faculty - Airlangga University, Soetomo Hospital
Jl. Prof Dr Moestopo 6-8 Surabaya 60286, East Java - Indonesia
Phone: +62 31 5501748, +62 31 5015218 Fax: +62 31 5015218
Email: secretariat@konika-acpid.com
Website: www.konika-acpid.com



Printed in Surabaya – Indonesia

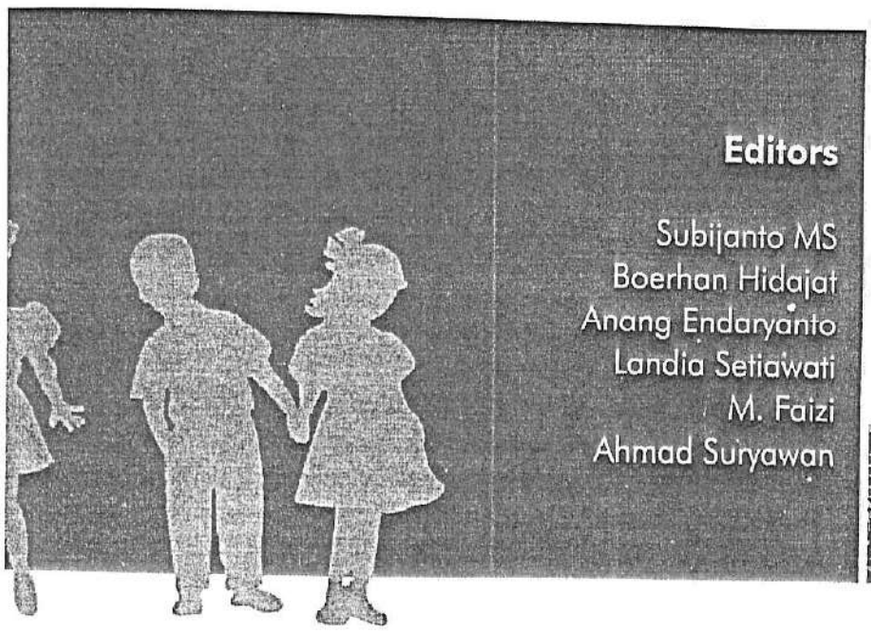
Graphic Design
Wawan

Setting – Layout
PussyCat Team
M-Si Production

Cover Image
The Heroes and "Suro-Boyo" Monument
Little m silhouettes reaching my horizon

Indonesian Pediatric Society (IPS/IDAI)

14th Indonesian Congress of Pediatrics



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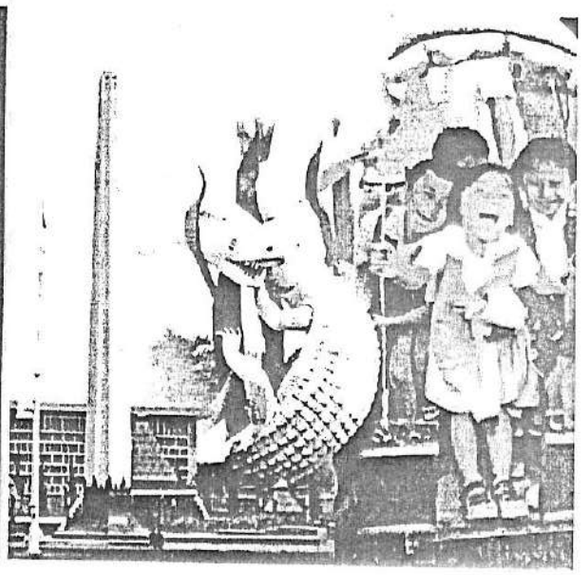

PROCEEDINGS OF 14th KONIKA
YOUNG RESEARCHER AWARD

P-RES-026 THE PROFILE OF BONE AND JOINT TUBERCULOSIS IN SOETOMO HOSPITAL 2003-2007

Endyt Purwandari, Makmuri, Retno Asih, Landia Setiawati
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P-RES-027 CLINICAL EFFICACY AND SAFETY OF CARBOCYSTEIN IN CHILDREN WITH MODERATE ASTHMA ATTACK (PRELIMINARY STUDY)

Anis Amiranti, Edim Harlah, Retno Asih Setyoningrum, Landia Setiawati
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P-RES-027 LATE PRESENTING OF BOCHDALEK DIAPHRAGMATIC HERNIA WITH LEFT PULMONARY AGENESIS IN A 5 MONTH-OLD CHILD

Marta Listijani Sigit, Retno Asih Setyoningrum, Landia Setiawati
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P-RES-028 LUNG ABSCESS IN A GIRL WITH ADULT-TYPE TUBERCULOSIS

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P-RES-029 MIDDLE-LOBE SYNDROME IN A CHILD WITH BRONCHIOLITIS

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P-RES-030 BCG-ASSOCIATED LYMPHADENITIS AS A SIGN OF IMMUNE RECONSTITUTION IN TREATED HIV-INFECTED CHILDREN

Nia Kurniati, Dina Muktiarti, Arwin AP Akib
Department of Child Health
Faculty of Medicine University of Indonesia,/Cipto Mangunkusumo Hospital
Jakarta – Indonesia

P-RES-031 PROFILE OF COMMUNITY ACQUIRED PNEUMONIA IN CHILDREN AT SOETOMO HOSPITAL SURABAYA IN 2006

Arina Setyaningtyas, Hanna Dyahferi, Retno Asih Setyoningrum, Landia Setiawati
Department of Child Health
Medical School, Airlangga University – Soetomo Hospital, Surabaya – Indonesia

P-RES-032 LYMPHADENITIS, PERITONITIS AND LUNG TUBERCULOSIS

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LARYNGOMALACIA IN SOETOMO HOSPITAL SURABAYA

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Department of Child Health, Medical School, Airlangga University – Soetomo Hospital Surabaya - Indonesia

Background

Laryngomalacia is the most common abnormality of the larynx of unknown etiology. It nay have respiratory symptom such as dyspnea, stridor and hoarse. Complication of laryngomalacia is micro aspiration that can be manifested as pneumonia or gastroesophageal reflux. In Soetomo hospital from February 2007 to February 2008, there where 19 laryngomalacia patients which were confirmed by direct laryngoscopy.

Purpose

This paper is to describe clinical and direct laryngoscopy feature of laryngomalacia in Soetomo hospital Surabaya.

Methods

This is retrospective study which data was collected from pediatric's medical record and direct laryngoscopy clinic Soetomo hospital, from February 2007 through February 2008.

Results

From 19 samples with laryngomalacia, 73.68% had dyspnea, 36.8% hoarse, 42% cough, 5.56% of all patients had all of the symptoms above since birth. The complication was gastroesophageal disease (GERD) that happens in 15.7% patients. From direct laryngoscopy 78.9% had epiglottis omega shape, 89% normal corda vocalis, and 94.7% with normal movement of corda vocalis. 73,6% was hospitalized with bronchopneumonia, acute laryngitis or GERD. Therapy of laryngomalacia was 100% conservative.

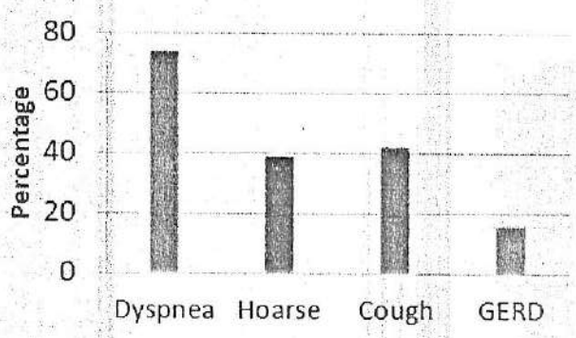

Table 1. Clinical Feature of Laryngomalacia

Conclusion

These data refer that most of the laryngomalacia patient suffered from dyspnea and was hospitalized because of the complication

Keyword: Laryngomalacia, direct laryngomalacia, gastroesophageal reflux

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LARYNGOMALACIA IN SOETOMO HOSPITAL SURABAYA

Retno Wulandari, Retno Asih, Makmuri MS, Landia Setiawati

Department of Child Health
Medical School, Airlangga University – Soetomo Hospital
Surabaya – Indonesia

Background: Laryngomalacia is the most common congenital abnormality of the larynx of unknown etiology. It may have respiratory symptoms such as dyspneu, stridor, cough and hoarse. The complication of laryngomalacia is micro aspiration that can be manifested as pneumonia or gastroesophageal reflux. In Soetomo hospital from Februari 2007 to February 2008, there were 19 laryngomalacia patients which were confirmed by direct laryngoscopy.
Purpose: This paper is to describe clinical and direct laryngoscopy features of laryngomalacia in Soetomo hospital Surabaya.
Method: This is a retrospective study which data was collected from pediatric's medical record and direct laryngoscopy clinic in Soetomo hospital, from Februari 2007 through Februari 2008.
Result: From 19 samples with laryngomalacia, 73.68% had dyspneu, 36.8% hoarse, 42% cough. 52.6% of all patients had all of the symptoms above since birth. The complication was gastroesophageal reflux disease (GERD) that happens in 15.7% patient. From direct laryngoscopy 78.9% had epiglottis omega shape, 89.4% normal corda vocalis and 94.7% with normal movement of corda vocalis. 73.6% was hospitalized with bronchopneumonia, acute laryngitis or GERD. Therapy of laryngomalacia was 100% conservative.
Conclusion: These data refer that most of the laryngomalacia patient suffered from dyspneu and was hospitalized because of the complication.

Keywords: *Laryngomalacia, direct laryngoscopy, gastroesophageal reflux*

Retno W. Laringomalacia in soetomo hospital surabaya

Introduction

Laryngomalacia is the most common a congenital abnormality of the laryngeal cartilage. It is the most common cause of congenital stridor. It is thought to represent a delay of maturation of the supporting structures of the larynx.

Infants with laryngomalacia have a higher incidence of gastroesophageal reflux, presumably a result of the more negative intrathoracic pressures necessary to overcome the inspiratory obstruction. Conversely, children with significant reflux may have pathologic changes similar to laryngomalacia, especially enlargement and swelling of the arytenoid cartilages. Some of the swelling of the arytenoid cartilages and of the epiglottis may be secondary to reflux.

Occasional inflammatory changes are observed in the larynx, which is referred to as reflux laryngitis. When the epiglottis is involved, gravity makes the noise more prominent when the baby is supine.

Objective :

To describe clinical features of children with laryngomalacia in Soetomo hospital Surabaya.

Method:

Medical records of children with laryngomalacia in Soetomo hospital, from Februari 2007 to Februari 2008 were studied retrospectively.

Result:

There were 19 children with laryngomalacia during the study period which was confirmed by direct laryngoscopy. The symptomps were dyspneu (73.68%), hoarse voice (36.8%), cough (42%); and 52.6% of them had symptoms since birth. Gastroesophageal reflux disease (GERD) has happened in 15.7% of patients. From direct laryngoscopy, 78.9% of patients had omega shape epiglotis, 89.4% had normal vocal cord's anatomy and 94.7% with normal vocal cord's movement. Hospitalization due to bronchopneumonia, acute laryngitis or GERD was observed in 73.6% of patients. Treatment of laryngomalacia was 100% conservative.

Discussion

Laryngomalacia is the most common cause of chronic inspiratory noise in infants, no matter which type of noise is heard. A classification system has been proposed. In type 1 laryngomalacia, the aryepiglottic folds are tightened or foreshortened. Type 2 is marked by redundant soft tissue in any area of the supraglottic region. Type 3 is associated with other disorders, such as neuromuscular disease and gastroesophageal reflux.

The majority of the infants are diagnosed in the first few weeks of life. High pitched inspiratory stridor is the hallmark of this condition and the stridor is worsened with activities such as crying, feeding or being placed in the supine position. Reflux and feeding symptoms such as choking, recurrent emesis, prolonged feeding time, cough and weight loss may also be seen. 10-20% of patients with laryngomalacia may present with complications such as life threatening airway obstruction, severe weight loss, failure to thrive, severe apnea, cyanosis, pulmonary hypertension, developmental delay and cardiac failure.

During periode of our study in Dr. Soetomo Hospital Surabaya, the symptoms were dyspneu (73.68%), hoarse voice (36.8%), cough (42%); and 52.6% of them had symptoms since birth. GERD has happened in 15.7% of patients. Hospitalization due to bronchopneumonia, acute laryngitis or GERD was observed in 73.6% of patients.

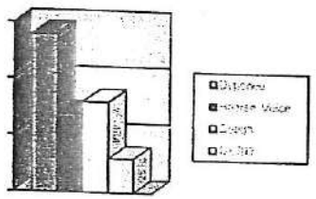

Figure 2. Clinical feature laryngomalacia

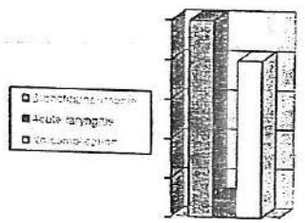

Figure 3. Laryngomalacia complication

Laryngomalacia may affect the epiglottis, the arytenoid cartilages, or both. When the epiglottis is involved, it is often elongated, and the walls fold in on themselves. The epiglottis in cross section resembles an omega, and the lesion has been referred to as an omega-shaped epiglottis. If the arytenoid cartilages are involved, they appear enlarged. In either case, the cartilage is floppy and is noted to prolapse over the larynx during inspiration.

Diagnosis of this condition is primarily clinical. A combination of history, physical examination and flexible laryngoscopy is sufficient to make a diagnosis in the majority of cases. Flexible laryngoscopy should be carried out in an awake child to assess the type and severity of laryngomalacia, look for synchronous airway lesions, hunt for signs consistent with GERD, and also to assess vocal fold mobility. It is important to realize that flexible laryngoscopy does not allow adequate visualization of the subglottis or trachea. Complementary studies may be done in some cases. Chest radiographs can aid in evaluation of potential lower respiratory anomalies such as tracheomalacia, innominate artery compression, vascular rings, and signs of aspiration. An esophagram may be done to

document the extent and degree of reflux but can also help rule out a concomitant motility disorder or extrinsic compression from vascular structures. Sleep studies should be done if the presenting symptoms are sleep apnea or if symptoms fail to improve after surgery. A pH probe study should be done prior to consideration of a Nissen's fundoplication for reflux.

In our study, there were 19 children with laryngomalacia during the study period which was confirmed by direct laryngoscopy. From direct laryngoscopy examination, 78.9% of patients had omega shape epiglotis, 89.4% had normal vocal cord's anatomy and 94.7% with normal vocal cord's movement

Figure 3. Omega shape

For the sake of this presentation, management of a child with laryngomalacia is divided into medical and surgical treatment. Medical management includes empiric reflux therapy, feeding modifications and posture repositioning. Empiric reflux therapy may be started with H2 receptor antagonists (ranitidine 3mg/kg three times daily) or proton pump inhibitors (1mg/kg daily). In more severe cases, 6mg/kg of ranitidine at night along with 1mg/kg of a PPI daily may be required. Feeding modifications include pacing, thickening formula feeds, upright feeding position, and giving the infant small, frequent meals. All parents are instructed on following reflux precautions. These help the baby feed adequately and maintain weight.

Laryngomalacia is a self limiting condition in 85-90% of patients. Absolute indications for surgery include cor pulmonale, pulmonary hypertension, hypoxia, life threatening airway obstruction, apnea, recurrent cyanosis, failure to thrive, pectus excavatum, and stridor with significant retractions. Relative indications include aspiration, difficulty feeding a child who has failed medical intervention and weight loss with feeding difficulty. One simple measure is to routinely plot these children on the growth curve to ensure they are gaining weight appropriately. There are no absolute contraindications for surgery. Weight and age are not

contraindications for surgery. The surgeon should proceed with caution in patients with laryngomalacia and other neurological disorders or patients who have multiple levels of obstruction because these conditions are associated with a higher failure rate. Preoperative counseling is a must and the parents should be advised regarding improvement in feeding and stridor. Though the feeding improvement is early and often dramatic, the stridor may take a longer time to resolve. Parents are also advised about the risks and benefits of surgery, including the possibility of postoperative intubation, overnight ICU stay, abnormal scarring and the risk of revision surgery. Parents and primary care physicians must be reminded about the importance of continuing reflux precautions and reflux medications post-operatively.

Supraglottoplasty is the most common procedure for laryngomalacia practiced today. This surgery is designed to trim the AE folds and remove the excess mucosa over the arytenoids. The procedure is carried out under general anesthesia with the child breathing spontaneously. The surgical set up is the same as that for suspension microlaryngoscopy. It is important to assess the tracheobronchial tree and vocal fold mobility prior to the procedure. The surgery may be performed with cold instruments, CO2 laser, micordebrider or a combination of these. While incising the AE folds, it is important not to extend the incision beyond the anterior edge of the arytenoids and the incision should not involve the pharyngoepiglottic fold. While removing the mucosa over the arytenoid cartilages, one should be gentle and diligent to preserve the interarytenoid mucosa to prevent supraglottic stenosis. Any bleeding during the procedure is easily controlled with afrin pledgets.

Epiglottopexy is a relatively new procedure indicated if the level of obstruction is at the level of the epiglottis. Some authors have presented this as the treatment for any patient with laryngomalacia with good surgical outcomes. In this procedure, the mucosa over the lingual surface of the epiglottis is denuded either with cold instruments or more recently with CO2 laser in a linear fashion. Important complications associated with this surgery include aspiration and supraglottic stenosis.

Tracheostomy is rarely performed today for laryngomalacia alone. Specific indications for tracheostomy include presence of > 3 comorbidities, severe sleep apnea documented on a sleep study and persistence of symptoms after revision supraglottoplasty.

Post-operative care includes overnight stay in the hospital, monitoring of airway symptoms and feeding improvement. The child may feed as soon as he is awake. Postoperative steroids may be given and reflux therapy is continued. The parents are asked to follow up in 2-4 weeks time and monitor the child for any worsening symptoms.

Complications after surgery are relatively uncommon (8%). Site-specific complications include bleeding, infection, web formation, and granulation tissue.

The most feared complication is supraglottic stenosis which is difficult to treat. This can be avoided by meticulous and very conservative surgery. In some cases, it may prove useful to operate on only one side at a time.

In this case, all of the patients were observed and got conservative treatment.

Conclusion

Laryngomalacia is the commonest cause of "stridor" in the newborn. It is a self-limiting condition in the vast majority of cases, and patients with this condition expect symptom improvement and resolution of stridor by 2 years of age. It is vital for parents to know that the condition may worsen around 4-6 months of age before it gets better. High pitched inspiratory stridor is the hallmark clinical presentation. Feeding difficulties and GERD are seen in 80-100% of patients with laryngomalacia. Diagnosis is usually established by history, physical examination and flexible laryngoscopy findings. Empiric reflux therapy is indicated for many patients and the more severe cases may benefit from a combination of medical treatment and surgery. Surgical success in selected patients with severe laryngomalacia is >90% in several studies.

REFERENCES

1) Congenital laryngeal stridor (laryngomalacia): etiologic factors and associated disorders. Belmont JR, Grundfast K. Ann Otol Rhinol Laryngol. 1984 Sep-Oct;93(5 Pt 1):430-7.

2) Toynton SC, SaundersMW, Bailey CM. Aryepiglottoplasty for laryngomalacia: 100 consecutive cases. J Laryngol Otol 2001;115:35–8.

3) Thompson DM. Abnormal sensorimotor integrative function of the larynx in congenital laryngomalacia: a new theory of etiology. Laryngoscope 2007;117:1–33.

4) Giannoni C, Sulek M, Friedman EM, et al. Gastroesophageal reflux association with laryngomalacia:a prospective study. Int J Pediatr Otorhinolaryngol 1998;43:11–20.

5) Richter GT, Thompson DM. The surgical management of laryngomalacia. Otolaryngol Clin North Am. 2008 Oct;41(5):837-64, vii.