

## MANAGEMENT OF ADENOTONSILLAR HYPERTROPHY IN AYURVEDA – A CASE REPORT

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### ABSTRACT

Adenotonsillar hypertrophy is a common paediatric disorder in Otorhinolaryngological practice worldwide and is the most common cause of upper airway obstruction and obstructive sleep apnoea. A 5-year-old male child with a known case of Adenotonsillar hypertrophy from the past 2 years presented to our OPD with nose block, mouth breathing, snoring and disturbed sleep. Child did not report fever or any other associated respiratory symptom. Examination of oropharynx revealed Chronic parenchymatous tonsillitis grade IV and investigation suggested obstructive adenoids grade III. He was treated with Ayurvedic interventions which included Kantha pratisarana (gentle rubbing of tonsillar tissue with medicated powders), Nasa pichu (nasal packing with gauze dipped in medicated oil) and oral formulations. There was complete remission in the symptoms and there was a significant reduction in the size of tonsils after 3 weeks of treatment. There were no recurrences observed during follow-up after a month of treatment.

**KEYWORDS:** Adenotonsillar hypertrophy, Kantha pratisarana, Nasa pichu, Chronic parenchymatous tonsillitis.

### INTRODUCTION

Adenotonsillar hypertrophy (ATH) is a combined term used for Chronic adenoiditis and Chronic tonsillitis. ATH is a common paediatric disorder in Otorhinolaryngological practice worldwide predominantly occurring in school-aged children to young adults. It is a condition in which adenotonsillar tissue enlarges in dimension which can lead to the development of serious problems such as snoring, abnormal and sleep-disordered breathing, obstructive sleep apnoea, speaking, smelling, tasting, swallowing difficulties, mouth breathing, and orofacial problems.<sup>[1]</sup> It can cause intermittent airway obstruction, chronic alveolar hypoventilation, and even lead to severe cardiopulmonary complications such as right ventricular failure and cor-pulmonale.<sup>[2]</sup> About 34.5% children in India develop Adenoid hypertrophy per year.<sup>[3]</sup> It is usually caused due to frequent exposure to bacterial and viral infections. Recurrent attack brings a negative impact over the general growth, overall development of children and delayed milestones. Management of tonsillitis and adenoiditis includes treatment of the most common cause i.e., Rhino-sinusitis to prevent enlargement and subsequent complications like snoring and sleep apnoea. Conservative management consists of

attention to general health, diet and treatment of coexistent infections by administration of analgesics, anti-histamines, steroids and antibiotics.<sup>[4]</sup> When the condition interferes with speech, deglutition and respiration causing snoring, mouth breathing, sleep apnoea syndrome or speech abnormalities, surgery is indicated.<sup>[5,6]</sup>

Clinical features of Adenoiditis and Chronic tonsillitis are similar to Kanthashaluka and Tundikeri respectively, mentioned under Kanthagata rogas in Ayurveda. Symptoms include knotty and elevated swelling resembling the seed of jujube (Kolavad grathita unnataha sophā) leading to obstruction (Margavarodha) in kanthashaluka<sup>[7]</sup> and a hard swelling resembling the fruit of cotton (Karpasi phala sannibha kathinashotha) at tempero-mandibular joint (hanusandhi) associated with inflammation (Paka) and Pain (Toda) in Tundikeri.<sup>[8]</sup>

In Ayurveda various treatment modalities like Nasal drops (Nasya), Local treatment procedures like fomentation (Swedana), holding of medicated fluids in mouth (Gandusha) and gentle rubbing of tissues with medicated powders (Pratisarana) have been indicated in management of both Kanthashaluka and Tundikeri.<sup>[9]</sup>

This study reports a case of Adenotonsillar hypertrophy (Kanthashaluka and Tundikeri) in a 5 years old child which was successfully managed with Ayurvedic treatment. Informed consent was taken from the parents for publication of the case and clinical details.

### CASE REPORT

A 5-years-old male child presented to Shalakyta tantra OPD of SKAMCH & RC Bangalore on 13/03/2024 with nose block, mouth breathing, snoring, disturbed sleep and difficulty swallowing from past 2 years. Child did not report fever or any other associated respiratory symptom. Source of history was mother and according to her, the symptoms were observed mainly during night times while sleeping. She was not aware whether the nose block was unilateral or bilateral. She also reported that the child had suffered from frequent cold and nasal discharge and the discharge used to be thick whitish or yellowish white. While eliciting the history, it was found that the problem of nose block had started during early infancy. The parents had consulted the paediatrician when the infant had trouble in suckling breast milk after 15 days of birth which was otherwise normal since birth. The paediatrician diagnosed it as common cold and attributed the suckling difficulty to nose block and had prescribed nasal drops to relieve the same. Later the child used to suffer from similar complaints upto two years specially after taking headbath and used to get relieved after instilling nasal drops. Child also suffered from frequent loose stools which started when the child was around 7 months old and lasted for almost 2 years and stopped only after taking Ayurvedic treatment. The child is reported to have delayed milestones with crawling at the age of 8 months, sitting at 1½ years and started walking at 2yrs after birth.

When the child was around two and a half years old, he reported to have suffered from recurrent cold and cough for which he was treated with mucolytics and antibiotics prescribed by the Paediatrician. After a week, since the symptoms increased, Chest x-ray was taken which showed no abnormality and was later treated with bronchodilators, steroids and oral anti histamines for the same problem. Later after 15 days, since the child developed snoring and mouth breathing, an x-ray of neck (lateral view) was taken as suggested by Paediatric pulmonologist which showed grade iii adenoids and was advised to undergo adenoidectomy surgery. The parents

refused and continued with the same treatment. After a month, the frequency of symptoms increased with the child tossing on bed at night, struggling to sleep, waking up due to difficulty breathing through nose, coughing with post-tussive vomiting. An Otorhinolaryngologist was consulted at a reputed hospital in Bangalore for the same and a CT scan was taken which suggested ATH, clear PNS except for deviation of nasal septum to right and enlarged inferior turbinates on the leftside. Adenotonsillectomy was suggested by him and since the parents didn't want to opt for invasive procedure, continued with the same nasal drops, inhalers and other oral medications for almost a year and later came to our OPD in search of alternative medicine. His family history was found to be insignificant.

On examination of nose, there was pinched external nose with osteo-cartilaginous framework deviated to right. Anterior rhinoscopy revealed narrow passage with mucopurulent discharge in the right and roomy passage in the left nasal cavity with inferior turbinate hypertrophy. Child was non-cooperative for Posterior rhinoscopy. Functional examination of nose and PNS were normal. Oral cavity was normal except for high arched palate. Examination of oropharynx revealed enlarged and kissing grade IV tonsils occluding more than 75% of oropharyngeal isthmus with inflammation in posterior pharyngeal wall. Otoscopic examination revealed retracted tympanic membrane bilaterally. The patient was having typical features of adenoid facies with open mouth, high-arched palate, protruding upper lip, pinched nose, everted upper lip, malar hypoplasia and loss of naso-labial fold.

Systemic examination showed normal findings in the cardiovascular, respiratory, central nervous and gastrointestinal systems.

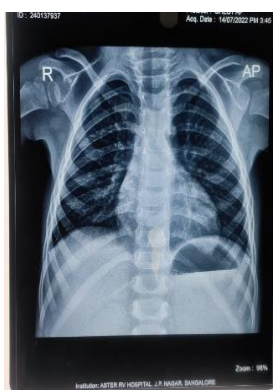
Based on signs, symptoms and investigations, diagnosis of Kanthashaluka (Chronic adenoiditis grade III) and Tundikeri (Chronic tonsillitis grade IV) i.e., Adenotonsillar hypertrophy with obstructive sleep apnoea was made along with the associated diseases i.e., Pratishtyaya (Chronic rhinitis) and Nasanaha (Deviated nasal septum). Treatment of the main and the associated diseases was planned considering the two major goals i.e., subsiding of symptoms and prevention of complications.



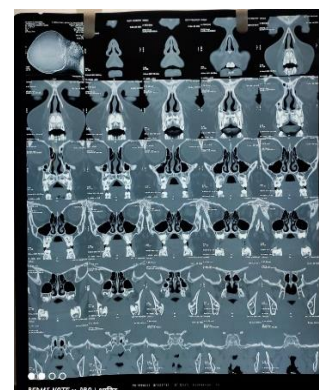
Kissing tonsils



Adenoids grade III



Chest X-ray



CT scan

**THERAPEUTIC INTERVENTION**

The treatment procedure was planned considering the age of the child and dosages accordingly. The treatment course included Kanta Pratisarana with Pippalyadi churna mixed with Madhu and Nasa pichu with Kalingadi taila which was given in two sittings with a gap of one week. Kavala with Triphala kashaya and oral

administration of Dashamoola katutrayadi kashaya, Vyoshadi vatakam and Darvyadi kashaya was advised for one month. During follow up, Pratimarsha nasya with Ksheerabala 101 for one week and Chyavanaprasha was advised along other oral medications. The child was advised to avoid ice-creams, curds, cold water, junk foods and unnecessary exposure to cold air and dust.

INTERVENTION	DOSE	DURATION
<b>1<sup>st</sup> Sitting (Day 01 to Day 07)</b>		
Kantha pratisarana with Pippalyadi churna with honey	1-2 grams	7 Days
Nasa pichu with kalingadi taila	10-15 drops	
<b>2<sup>nd</sup> Sitting (Day 14 to Day 21)</b>		
Kantha pratisarana with Pippalyadi churna with honey	1-2 grams	7 Days
Nasa pichu with kalingadi taila	10-15 drops	
<b>At Follow up (Day 31 to Day 37)</b>		
Pratimarsha nasya with Ksheerabala taila 101	2 drops	7 Days
<b>(Day 01 to Day30)</b>		
Kavala with Triphala kashaya	Twice daily	30 Days
Dashamoolakatutrayadi kashaya B/F with warm water	1-0-1 tsp	
Vyoshadi vatakam A/F with honey	½-0-½ tab	
Darvyadi kashaya B/F with warm water and honey	1-0-1 tsp	
Chyavanprash A/F with warm water	½-0-½ tsp	

The results were assessed with the following parameters.

SYMPTOMS	GRADE 0	GRADE 1	GRADE 2	GRADE 3
Nose Blockage	No blockage	Mild	Moderate	Severe
Mouth Breathing	Nasal breathing	Occasional during night	Regular during night	Throughout the day
Snoring	No snoring	Some of the nights	Most of the nights	Every night
Difficulty Swallowing	No difficulty swallowing	Difficulty Swallowing Solid foods	Difficulty Swallowing Liquid foods	Difficulty Swallowing even Saliva
Disturbed Sleep	Sound sleep	Occasional disturbed sleep	Intermittent disturbed sleep	Regular disturbed sleep
Enlarged Tonsils	No swelling	<25% of oropharynx occupied	<50% of oropharynx occupied	<75% of oropharynx occupied
Enlarged Adenoids	No obstruction	Filling 1/3 <sup>rd</sup> of vertical portion of choanae	Filling 2/3 <sup>rd</sup> of vertical portion of choanae	Complete obstruction of choanae
Nasal Discharge	No discharge	1-5 blows	6-10 blows	10 blows

**OBSERVATIONS**

After the first sitting, nose block and snoring reduced moderately and there was mild reduction in difficulty swallowing and the child could sleep better. After the second sitting, nose block, snoring and difficulty in swallowing were absent and the child had an undisturbed sleep. During follow up, there was reoccurrence of nose block after a week of second sitting and it reduced

significantly after administration of Pratimarsha nasya with Ksheerabala 101. There was a significant reduction in the size of tonsils from grade IV to grade II which was evident from oro-pharyngeal examination. Size of adenoids couldn't be assessed after the treatment since X-ray couldn't be taken and it was presumed to be reduced, since there was complete remission of the symptoms.

**RESULTS**

Symptoms	Before Treatment	After 1 <sup>st</sup> Sitting	After 2 <sup>nd</sup> Sitting	After Follow up
Nose Blockage	3	2	0	0
Mouth breathing	3	2	0	0
Snoring	3	2	0	0
Difficulty swallowing	1	0	0	0
Disturbed sleep	3	2	0	0
Enlarged tonsils	4	3	3	2
Nasal Discharge	2	1	0	0

**Before Treatment****After 1st sitting****After 2nd sitting****At follow up****DISCUSSION**

Adeno-tonsillar hypertrophy is the enlargement of both adenoids and tonsils leading to obstruction of Nasopharynx and Oropharynx respectively. Some children have tendency of generalised lymphoid hyperplasia in which adenoids and tonsils also takes part. Adenoids is a physiological growth which takes part in atrophy after 6 years of life but may remain in some children. Tonsils when exposed to pathogens gets inflamed and hypertrophied and again contributing to enlargement of adenoids.<sup>[10]</sup>

Common causes of ATH include exposure to cold weather, polluted environment or intake of junk foods leading to recurrent rhinitis, sinusitis and allergy of upper

respiratory tract. In the present case, child suffered from common cold during early infancy which could be because of reduced immunity in the infancy and also could've due to the reduced maternal immunity, that would have led to URTI at an early age in the child.

Kapha dosha aggravating causative factors have been mentioned in the pathogenesis of kantha rogas in Ayurvedic classics. Maternal factors like reduced activities during pregnancy and Kaphaja ahara sevana by the mother could have led to Kaphaja stanya dushti leading to agnimandhya (reduced appetite) and kaphaprakopa causing srotorodha (nose block) and kaphaja pratishyaya in the infant. Child being predominant in Kapha prakruti and further Kaphakara

nidana sevana by the mother and the child, the vitiated doshas get lodged in Kantha which leads to Rakta dushti causing Kanthashaluka and Tundikeri.

As kapha is the main dosha involved in the pathogenesis, kaphahara chikitsa was adopted followed by vatashamana chikitsa. Treatment protocol of Kaphaja rohini<sup>[11]</sup> has been advised in Kanthashaluka and Tundikeri i.e., Swedana, Lekhana, Pratisarana, Gandusha and Nasya which was followed in this case.

Kantha pratisarana of tonsillar tissue was done with Pippalyadi churna mixed with honey taken in a sterile Johnson bud for 2-3 minutes. Pippalyadi churna has been indicated in all Kanthagata rogas.<sup>[12]</sup> The drugs Pippali, pippalimula, chavya, chitraka, shunthi, yava ksahara and sarjika kshara present in it possess lekhana, ropana, Kapha-hara, Rakta-shamaka and Shotha-hara (anti-inflammatory) and anti-microbial properties. Pratisarana of drugs mixed with honey cleanses crypts filled with infected material and debris and helps in better absorption of active principles into the tonsillar tissues. Ksharana (destruction) quality of kshara present in the drug helps to reduce the size of tonsils.

Nasa-pichu is a modified technique of Nasya used in this study which included nasal packing with a sterile gauze (10\*5 cms) rolled and dipped in Kalingadi taila and kept in each nostril for 5 minutes followed by warm water gargling. This procedure was adopted considering the age and ease of administration. There will be gradual absorption of active principles of the drug through nasal mucosa. Kalingadi taila<sup>[13]</sup> is indicated in Apeenasa (Chronic rhinitis) and most of the ingredients possess kapha-vatahara properties. As taila is sookshma and mucous membrane lining the nasal cavity is continuous with that of naso-pharynx, the active principles penetrate adenoid tissues and helps to reduce inflammation.

Kavala is a procedure of gargling the medicated fluid for a specific period of time. It cleanses the oral cavity and throat and also prevents infections spreading from throat to middle ear through Eustachian tube. Triphala kashaya<sup>[14]</sup> used in kavala possess anti-inflammatory, and antimicrobial properties hence helps to reduce the inflammation in the throat.

Dashamoola katutrayadi kashaya<sup>[15]</sup> exhibits Ushna, kapha-vatahara and vata anulomana properties and acts as mucolytic, anti-tussive, appetizer and anti-inflammatory. Vyoshadi vatakam<sup>[16]</sup> contains ingredients such as trikatu which possess deepana-pachana and kaphahara action and has been indicated in pratishyaya, kasa and shwasa. Darvyadi kwatha paana has been mentioned in samanya chikitsa of Kantha-rogas.<sup>[17]</sup> Ingredients like Daruharidra has tikta-kashaya rasa and helps to alleviate Pitta and Kapha doshas and possesses anti-bacterial, anti-viral and anti-inflammatory properties.

Pratimarsha nasya with Ksheerabala 101 taila<sup>[18]</sup> was advised during first 7 days of followup to subside the aggravated vata after eliminating the Avaraka kapha in Nasanaha (Nasal blockage) through kaphahara chikitsa.

Chyavanprash was selected for its ability to enhance the functioning of respiratory system, for its significant rasayana (immunomodulatory) and antioxidant effect.

## CONCLUSION

Adenotonsillar hypertrophy is prevalent in today's Paediatric and Otorhinolaryngological practice, making timely treatment crucial to avoid complications. In this case study, the treatment protocol followed resulted in complete remission of symptoms after 3 weeks of treatment and no recurrences were observed during follow-up after a month of treatment. Therefore it can be concluded that timely intervention with proper Ayurvedic treatment protocol can prevent complications as well as need for surgery in ATH.

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