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# "CLINICAL AND ENDOSCOPIC EVALUATION OF THE EFFICACY OF INTRANASAL MOMETASONE FUROATE IN CHILDREN WITH ADENOID HYPERTROPHY"

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Adenoid hypertrophy is a frequent cause of chronic nasal obstruction and impaired nasal breathing in children. Enlarged adenoid tissue can obstruct the choanae and the nasopharyngeal airway, resulting in mouth breathing, snoring, sleep disturbances, recurrent upper respiratory tract infections, and impaired quality of life. Although adenotomy remains the standard surgical treatment for severe symptomatic cases, conservative treatment with intranasal corticosteroids may reduce symptoms and adenoid tissue enlargement in selected patients.

Adenoid hypertrophy (AH), or the enlargement of the pharyngeal tonsil, is a prevalent issue in pediatric otorhinolaryngology. The adenoid is a lymphatic tissue found in the roof and back wall of the nasopharynx, contributing to Waldeyer's lymphatic ring. Adenoid tissue can experience normal growth during childhood due to immune stimulation. Nonetheless, excessive growth can result in mechanical blockage of the nasopharyngeal airway and produce clinically important symptoms. The clinical signs of adenoid hypertrophy are influenced by the size and anatomical location of the adenoid tissue, the level of obstruction, the existence of accompanying inflammation, and unique anatomical traits of the individual. The typical symptoms

consist of ongoing nasal blockage, trouble with nasal respiration, regular mouth breathing, snoring, disrupted sleep patterns, frequent nasal discharge

In more severe instances, chronic obstruction can be linked to sleep-related breathing issues and obstructive sleep apnea. Chronic mouth breathing can also.Lead to alterations in craniofacial development, dental alignment, and facial growth. Consequently, early recognition and adequate treatment of clinically relevant adenoid hypertrophy are vital aspects of pediatric ENT practice.

Historically, adenotomy has been regarded as a valuable intervention for children experiencing considerable adenoid blockage and ongoing symptoms. Nonetheless, not every patient requires surgery. In children with mild-to-moderate adenoid enlargement, particularly when there are inflammatory changes, conservative management may be an option.Intranasal corticosteroids have emerged as a crucial part of conservative treatment. Mometasone furoate is a powerful intranasal corticosteroid noted for its local anti-inflammatory effects and relatively low systemic absorption when utilized correctly. Its therapeutic impact might involve decreasing mucosal inflammation, swelling, and possibly the volume of adenoid tissue

Despite the potential benefits of medical treatment, assessment of treatment efficacy should not rely exclusively on subjective symptoms. Objective visualization of the nasopharynx is important because the severity of symptoms does not always correspond directly to the anatomical degree of adenoid enlargement.

Nasal endoscopy provides direct visualization of the adenoid tissue, choanae, posterior nasal cavity, and nasopharynx. Compared with indirect examination methods, endoscopy allows a more precise assessment of the degree of obstruction and provides an objective method for monitoring changes during conservative therapy.

Therefore, combining clinical assessment with endoscopic evaluation is particularly relevant when investigating the effectiveness of intranasal mometasone furoate in children with adenoid hypertrophy.

**ROLE OF MOMETASONE FUROATE:**Mometasone furoate belongs to the group of intranasal corticosteroids. Its main therapeutic effect is related to suppression of local inflammatory processes.

Potential mechanisms include:

- reduction of mucosal inflammation;
- reduction of tissue edema;
- suppression of inflammatory mediator activity;
- improvement of nasal airway patency;
- reduction of nasal congestion;
- potential reduction in the apparent volume of hypertrophied adenoid tissue.

An important consideration is that the effect of treatment may be greater when inflammation contributes significantly to the patient's symptoms.

Therefore, the objective of therapy is not simply to "remove" the adenoid tissue pharmacologically. Rather, intranasal corticosteroid treatment may reduce inflammatory swelling and improve the functional airway in selected patients.

Treatment effectiveness should ideally be evaluated using both subjective and objective parameters.

Clinical parameters;Before and after treatment, the following symptoms may be scored:

1. nasal obstruction;
2. mouth breathing;
3. snoring;
4. sleep disturbance;
5. recurrent nasal symptoms;
6. daytime fatigue or reduced sleep quality.

A simple symptom scale can be used:

0 — absent

1 — mild

2 — moderate

3 — severe

This allows quantitative comparison between baseline and follow-up assessments.The main objective outcome should be the change in the degree of adenoid obstruction.

**For example:**

**Before treatment: Grade III obstruction.**

**After treatment: Grade II obstruction.**

Such a change would indicate a measurable reduction in the anatomical obstruction

EXPECTED RESULTS:The expected findings of a properly designed clinical study may include:

- Reduction in the severity of nasal obstruction.
- Decrease in the frequency of mouth breathing.
- Reduction in snoring intensity.
- Improvement in sleep quality.
- Reduction in inflammatory changes in the nasopharynx.
- Reduction in the endoscopically determined degree of adenoid obstruction.

Improved correlation between clinical symptoms and endoscopic findings after treatment.

The response to therapy is likely to differ between patients. Children with mild-to-moderate adenoid hypertrophy may demonstrate a greater response to conservative therapy than children with severe mechanical obstruction.

The management of adenoid hypertrophy in children requires consideration of both anatomical obstruction and associated inflammatory processes. Although adenoid size is an important factor, it should not be considered the only determinant of symptom severity.

A relatively large adenoid may produce limited symptoms in one child, whereas a smaller adenoid may cause significant obstruction in another child because of differences in nasopharyngeal anatomy.

This explains why clinical examination alone may not provide sufficient information for treatment decisions.Endoscopy has particular value because it allows direct visualization of the anatomical relationship between the adenoid tissue and the posterior nasal airway. It can therefore help distinguish children who may benefit from medical therapy from those who have persistent severe mechanical obstruction.Intranasal mometasone furoate may be particularly useful as a conservative therapeutic option in children with mild-to-moderate disease. Its anti-inflammatory action may reduce mucosal edema and improve nasal airflow.

An important clinical advantage of conservative treatment is that it may provide symptom relief while avoiding or delaying surgery in appropriately selected patients.

However, intranasal corticosteroid therapy should not be considered a universal substitute for adenotomy. Children with severe persistent obstruction, significant sleep-disordered breathing, recurrent complications, or inadequate response to medical therapy may require further evaluation for surgical treatment.

Consequently, the optimal approach is individualized treatment based on symptom severity, endoscopic findings, response to medical therapy, and the presence of associated complications.

**CLINICAL SIGNIFICANCE**:The clinical significance of the study lies in establishing a practical approach to conservative management of pediatric adenoid hypertrophy.

The combination of clinical examination and nasal endoscopy can provide two complementary types of information:

Clinical assessment demonstrates how the disease affects the child's daily life and sleep.Endoscopic assessment demonstrates the anatomical degree of obstruction.

When both parameters improve following treatment, the therapeutic response becomes more convincing.Therefore, endoscopic monitoring can be considered an important component of objective treatment evaluation.

**CONCLUSION**

Intranasal mometasone furoate may be an effective conservative treatment option for selected children with adenoid hypertrophy, particularly in cases of mild-to-moderate hypertrophy accompanied by inflammatory symptoms.Treatment may result in improvement of nasal breathing, reduction of mouth breathing and snoring, and improvement of sleep-related symptoms.Nasal endoscopy provides important objective information regarding the size of adenoid tissue and the degree of nasopharyngeal obstruction. The comparison of endoscopic findings before and after treatment allows a more reliable assessment of anatomical treatment response.

The combination of clinical and endoscopic evaluation is therefore recommended when assessing the effectiveness of conservative therapy in children with adenoid hypertrophy.Patients with persistent severe obstruction or inadequate response to medical treatment should undergo further evaluation to determine whether surgical intervention is indicated.

PRACTICAL RECOMMENDATIONS

- Children presenting with persistent nasal obstruction, mouth breathing, or snoring should undergo comprehensive ENT evaluation.
- Nasal endoscopy should be considered an important diagnostic method for determining the anatomical degree of adenoid obstruction.
- Intranasal corticosteroid therapy may be considered in appropriately selected children with mild-to-moderate adenoid hypertrophy.
- Treatment effectiveness should be assessed using both clinical symptoms and objective endoscopic findings.

- Persistent severe obstruction despite adequate conservative treatment should prompt consideration of further management, including surgical treatment when clinically indicated.

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