

# Nasal polyposis and the role of alphintern

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### Introduction

Nasal polyposis is a chronic inflammatory disease of the nasal mucosa. The pathogenesis of nasal polyps is still not entirely known. This makes definitive treatment very challenging. The aim of our study is to evaluate the effect of alphintern on the treatment of nasal polyposis.

### Patients and methods

Patients received alphintern tablet for 2 weeks. Before and after drug intake all patients were asked to fill in a questionnaire in which they rated their overall symptoms on visual analog scale; endoscopic physical findings were scored on the Lindholdt staging system.

### Results

Twenty-three patients were included in the study, 14 men and nine women in the age range from 25 to 56 years. Statistical analysis shows no significant difference ( $P > 0.05$ ) before and after treatment with alphintern for severity of symptoms and endoscopic staging of nasal polyposis.

### Discussion

The main goals in the treatment of nasal polyposis, whether medical or surgical, are to relieve patient symptoms and to prevent complications. There are few direct comparisons of the medical and surgical treatment in the literature. Those that exist suggest that most patients should be treated medically, with surgery reserved for patients who respond poorly. Intranasal corticosteroids are by far the best documented type of medical treatment for nasal polyposis. Researches for other drugs for the treatment of nasal polyposis were done. In this study, the use of alphintern for the treatment of nasal polyposis shows no significant improvement in the severity of symptoms and size of polyps.

### Conclusion

Topical intranasal steroids are the best documented medical treatment. Alphintern shows no significant effect on the management of nasal polyposis. Further studies with more patients and longer duration of treatment are required for more evaluation of drug effect.

### Keywords:

alphintern, intranasal steroids, nasal polyposis

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### Introduction

Nasal polyposis is a chronic inflammatory disease of the nasal mucosa. The prevalence of nasal polyps seems to vary between 1 and 4% of the population [1], and accounts for 40% of chronic nasal disease [2].

Nasal polyposis is the end result of a variety of pathologic processes. The pathogenesis of nasal polyps is still not entirely known and has been debated for many years. This lack of understanding makes definitive treatment very difficult [3].

Although the etiology of nasal polyposis remains unknown, emerging evidence showing elevated local IgE levels and eosinophilic infiltration suggests an allergic etiology [4]. Activated eosinophils are a prominent feature of nasal polyps. Their presence in the tissue results from a complex series of events that regulate their influx from the vasculature, as well as

their movement, activation, and survival within the tissue. Several studies have demonstrated that there are many potent chemoattractants that can activate eosinophils and trigger the inflammatory response [3].

Patients with nasal polyposis commonly present with nasal obstruction, nasal discharge, facial pressure/pain, and hyposmia of prolonged duration [5].

The aims of the treatment are to relieve nasal blockage, restore olfaction, and improve sinus drainage [6].

Alphintern (chymotrypsin–trypsin) is an anti-inflammatory antiedematous medication used to

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treat ecchymosis and skin bruises. It has been used by some local physicians to treat nasal polyposis.

The aim of this study was to evaluate the effect of the course of alphintern on nasal symptoms, and endoscopic finding in patients with nasal polyposis.

## Materials and methods

A prospective, before-after study was performed on 23 patients diagnosed as chronic nasal polyposis who were referred to the ENT Clinic, Benghazi Medical Center, Benghazi, Libya in the period from March 2013 to July 2013.

Written consent was obtained from each patients before enrollment into the research project.

### Inclusion criteria

- (1) Age more than 18 years.
- (2) Patients with chronic nasal polyposis confirmed by symptoms and signs (nasal obstruction, nasal discharge, smell disturbance, postnasal discharge, headache/facial pain, and bilateral visible nasal polyps).

### Exclusion criteria

- (1) Clinical features of less than 12 weeks.
- (2) Patients with previous history of nasal or paranasal sinuses surgery or trauma.
- (3) Patients who receive oral or topical steroids, antibiotics the previous month.

## Patients and methods

After primary assessment all patients in this study were subjected to the following after signing the informed consent:

Epidemiologic data were collected, including age and sex.

Severity of symptoms (nasal obstruction, nasal discharge, postnasal discharge, smelling disturbance, headache, and facial pain) were assessed with the symptom score instrument [7], which uses a 0–10 visual analog scale (VAS). Patients rated their symptoms ranging from 0 (no symptoms) to 10 (the most severe condition).

Endoscopic physical findings were scored based on the Lindholdt staging system [8] where:

- (1) Small polyps not reaching the upper edge of the inferior turbinate.
- (2) Polyps reaching between the upper and lower edge of the inferior turbinate.
- (3) Large polyps reaching below the lower edge of the inferior turbinate.

Patients received alphintern (AMOUN Pharmaceutical, Egypt) tablet 600 mg three times daily for 2 weeks. Before and after drug intake all patients were asked to fill in a questionnaire in which they rated their overall symptoms on VAS.

Endoscopic physical findings before and after treatment were scored on the Lindholdt staging system.

## Results

During the study 23 patients with nasal polyposis were enrolled, 14 men and nine women in the age range from 25 to 56 years. The mean of VAS scores before and after treatment with alphintern are shown in Table 1. The difference between before and after treatment scores was statistically not significant ( $P > 0.05$ ) for nasal obstruction, nasal discharge, postnasal discharge, facial pain, and smell disturbance.

Comparison of endoscopic staging of polyposis before and after treatment is shown in Table 2. The frequency between before and after treatment scores was statistically not significant.

## Discussion

The management of nasal polyposis is undoubtedly a controversial subject. The main goals in the treatment

**Table 1 Results of visual subjective analog scale score before and after treatment**

Symptoms	Before treatment	After treatment	<i>P</i> value
Nasal obstruction	7.5 (±1.9)	7.1 (±1.8)	0.5
Nasal discharge	6.1 (±1.4)	6 (±1.5)	0.1
Postnasal discharge	6.7 (±1.6)	6.3 (±1.8)	0.8
Facial pain and headache	5.7 (±2.4)	5.3 (±2.2)	0.2
Smell disturbance	6.7 (±2.2)	6.3 (±2.1)	0.8

**Table 2 Nasal endoscopic staging before and after treatment**

Endoscopic staging	Frequency	
	Before treatment	After treatment
Stage I	3	2
Stage II	11	13
Stage III	9	8

of nasal polyposis are relief of patient symptoms and prevention of complications [9], whether medical or surgical. There are few direct comparisons of medical and surgical treatment in the literature. Those that exist suggest that most patients should be treated medically, with surgery reserved for patients who respond poorly [6]. Oral and intranasal steroids are by far the best documented type of medical treatment for nasal polyposis [10].

Most of the publications are aimed at the registration of new molecules from the pharmaceutical industry which explains why they are confined to a single agent. Payman *et al.* [11] studied the efficacy of clarithromycin in patients with severe nasal polyposis and found that a course of clarithromycin significantly improved nasal symptoms, polyp size, and computed tomography scan finding. Kieff *et al.* [12] studied the effect of montelukast in the treatment of nasal polyposis; they found that montelukast appears to be beneficial for some patients with nasal polyposis. Patients with perennial allergies and nasal polyposis seem more likely to respond to the treatment than those with nonallergic nasal polyposis. Haye *et al.* [13] who studied the effect of cetirizine on symptoms and signs of nasal polyposis found that the number and size of polyps remained unchanged during the study period. Kroflic *et al.* [14] studied the effect of topical furosemide versus oral steroid in the preoperative management of nasal polyposis and found that subjective symptoms and endoscopy scores did not differ significantly between the groups after the treatment, although improvement of olfaction was significantly better in the steroid group. Helbling *et al.* [15] studied the efficacy of intranasal amphotericin B on nasal polyposis and found that nasal amphotericin B spray is not effective for nasal polyps and may even cause deterioration.

This study was developed to gain more insight into the effects of alphintern in the treatment of nasal polyposis.

Each tablet of alphintern contains chemotrypsin and trypsin and has a synergistic anti-inflammatory and antiedematous action of two potent proteolytic enzymes, affecting the exudative phase of inflammation and ensuring the destruction of peptidic chains in inflammatory processes, regardless of their origin, used to treat ecchymosis and skin bruises it has been used by some local physicians to treat nasal polyposis. A variety of methods may be used for measuring symptom severity in chronic rhinosinusitis patients. Although Sinonasal Outcome Test-22 has been shown to be the best available test for

subjective classification [16], its use is time consuming and rather complicated in a busy clinic. Using simpler methods like VAS scoring is more feasible and enables an accurate and repeatable evaluation of symptoms [7].

In this study, 23 patients were enrolled to this study, 14 men and nine women in the age range from 25 to 56 years. Statistical analysis shows no significant difference ( $P > 0.05$ ) before and after treatment with alphintern for severity of symptoms and endoscopic staging of nasal polyposis.

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## Conclusion

- (1) Nasal polyposis is a common chronic disease of the nose and paranasal sinuses.
- (2) Topical intranasal steroids are the best documented medical treatment.
- (3) Alphintern shows no significant effect on the management of nasal polyposis.
- (4) Further studies with more patient samples and longer duration of treatment are required for more evaluation of drug effects.

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Nil.

## Conflicts of interest

There are no conflicts of interest.

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