

## ORIGINAL ARTICLE

# The Management of Rhinosinusitis with Intensive Combined Medical Treatment: Auditing of a Practice

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## Abstract

The medical treatment of chronic and recurrent rhinosinusitis remains up to the primary care doctors if not the patients themselves. It is always a debate among physicians what should we order. In this study we audit our management as a secondary referral centre. We prospectively followed twelve patients after receiving intensive medical treatment with antibiotics, intranasal decongestants and intranasal steroids. It was found that with intensive combined medical treatment 84% of the patients improved, and only on 8% required surgical intervention. Hospital visits were reduced from 2.7 visits per patient to one. The mean time for decision taken reduced from 141.1 days to 55.5 days and time waited for operation to take time reduced from 249.4 to 17 days. This treatment reduces the need to treat surgically, reduces hospital visits and save time.

## Introduction

Treating chronic and recurrent rhinosinusitis remains a challenge to both primary care physicians and specialists. There

is no agreement among rhinologists about the best approach to this problem(1). Some use surgical intervention following their first encounter with the patient thinking that medical treatment has already been extensively explored in the primary care setting. Others may still order some medical treatment as a way of delaying surgical intervention, but still fail to give this treatment adequate time to work. Others may use a single modality treatment instead of a more potent combination of treatments.

## Methods

In this audit, we initially reviewed the last fifteen patients who had undergone the currently accepted surgical methods to deal with rhinosinusitis, all performed by the same surgeons. The notes of these fifteen patients were reviewed for age, gender, number of visits, symptoms, treatment received from the general practitioner (GP) and its duration, treatment offered by our department and its duration, the surgery performed and any complication. The data was recorded using Microsoft Excel 2004 software (Seattle, Washington).

In the second stage an intensive medical treatment was introduced to twelve new patients presenting with signs and symptoms of chronic or recurrent rhinosinusitis. This treatment was two weeks of intranasal xylometazoline decongestant drops, used three times daily in the specified position. This was followed by six weeks of Mometasone nasal spray, 50 microgram once daily. Doxycycline 100 mg was given every day for eight weeks with a loading dose of 200 mg on day one. At the end of the eight weeks these patients were evaluated and assessed regarding the need for any surgical intervention.

**Results**

We reviewed the surgical notes of fifteen patients who all underwent functional endoscopic sinus surgery for signs and symptoms of chronic or recurrent rhinosinusitis, and all surgeries were done by the same physician. There were six females and nine males ranging in age from 25 to 77 years with mean age of 46.6 years.

The number of visits prior to surgical intervention ranged from one to five visits with an average of 2.7 visits per patient. The time spent reviewing the case before surgery ranged from zero days to 706 days with a mean of 141.13 days. The duration of time prior to surgery ranged from 28 days to 934 days with a mean of 249.4 days per patient (Figure 1).

Thirteen patients presented with nasal obstruction, eight with facial pain, seven with signs and symptoms of hay fever, eight with frontal headache, five had deviated nasal septums on examination and one patient had polyps. The duration of the symptoms were specified only in three patients. We gave medical treatment only to twelve patients, two of whom received a single drug modality. Three patients received no treatment. The treatment prescribed ranged from oral antibiotics, steroidal nasal spray, steroid nasal drops, and oral antihistamine. The duration was always specified (Figure 2). The treatments prescribed by the GP were for varying periods of time and duration. It was single modality in two patients and almost always involved a course of antibiotics. Four patients received no treatment what so ever (figure 3).

Four patients had previous surgery; two of them had a conventional polypectomy, one a septoplasty with surgery to inferior turbinates, and one had a maxillary antrum washout.

Almost all patients had the classical endoscopic sinus surgery involving anterior and posterior ethmoidectomies, and middle meatl antrostomy. Septoplasty was performed in nine patients. The frontal recess was resected in three patients (figure 4).

At the second stage of the audit, we noted that the decision to operate was taken in one patient (8%) out of the twelve who received our combined medical treatment interventions, and hence was listed for functional endoscopic sinus surgery in

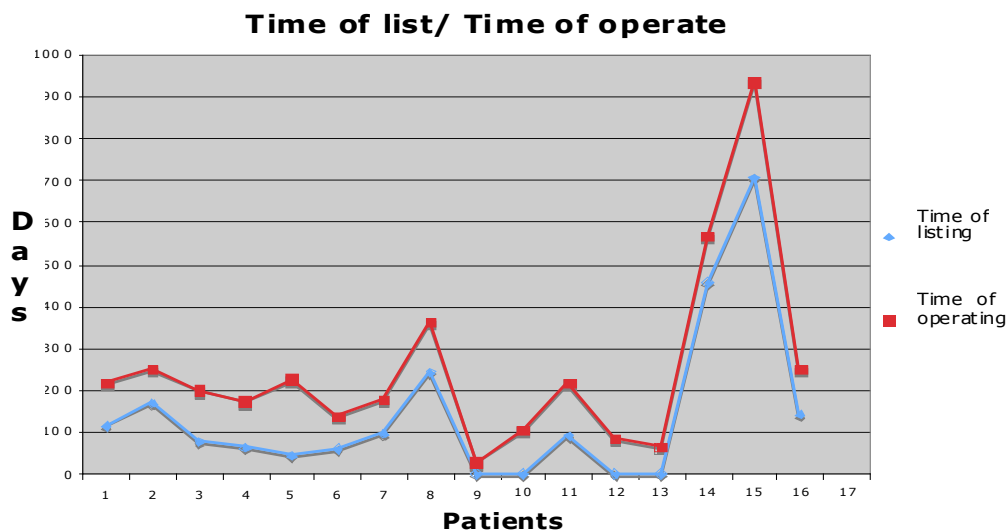


Figure 1: The relation between the time of referral, listing, and operating

the second hospital visit about 58 days later, and was operated 177 days from the first encounter with. Ten patients (84%) improved with the treatment and were discharged.

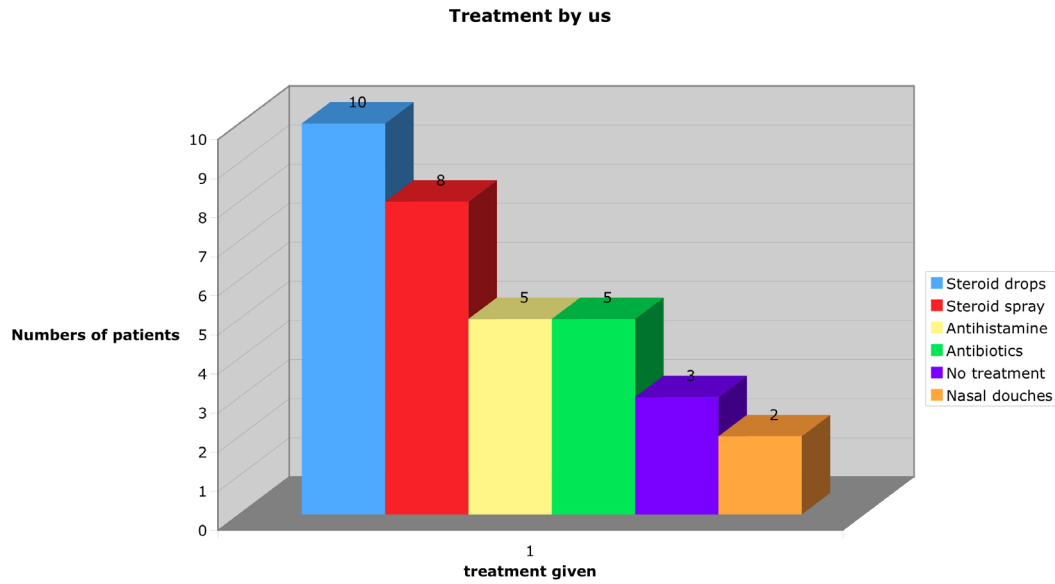


Fig 2: Treatment prescribed to patients on their Initial visit

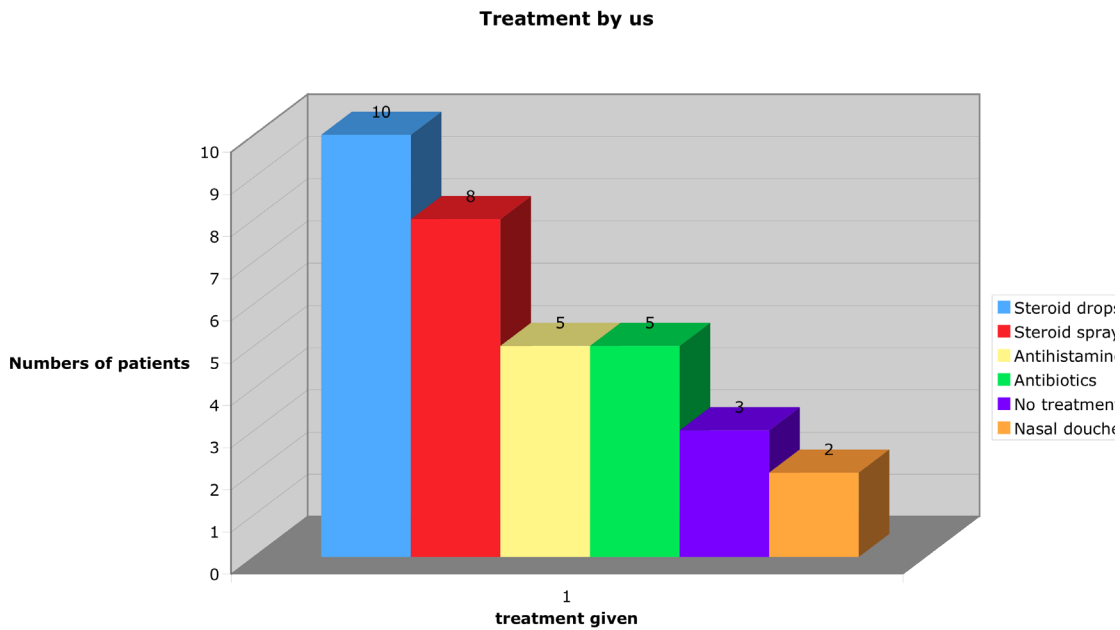


Figure 3: Treatment given by Gp's Prior to referral

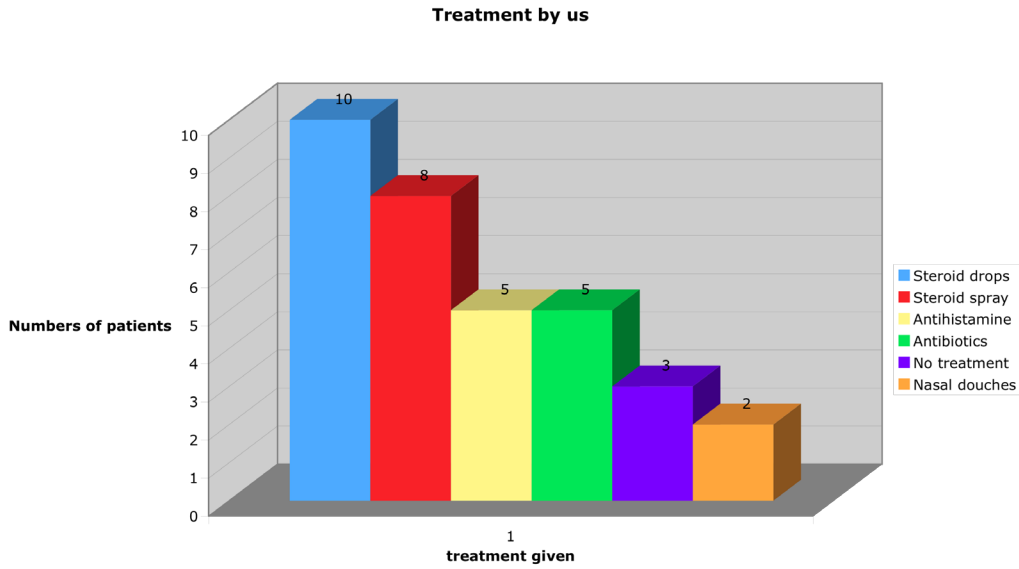


Figure 4: Type of Surgery

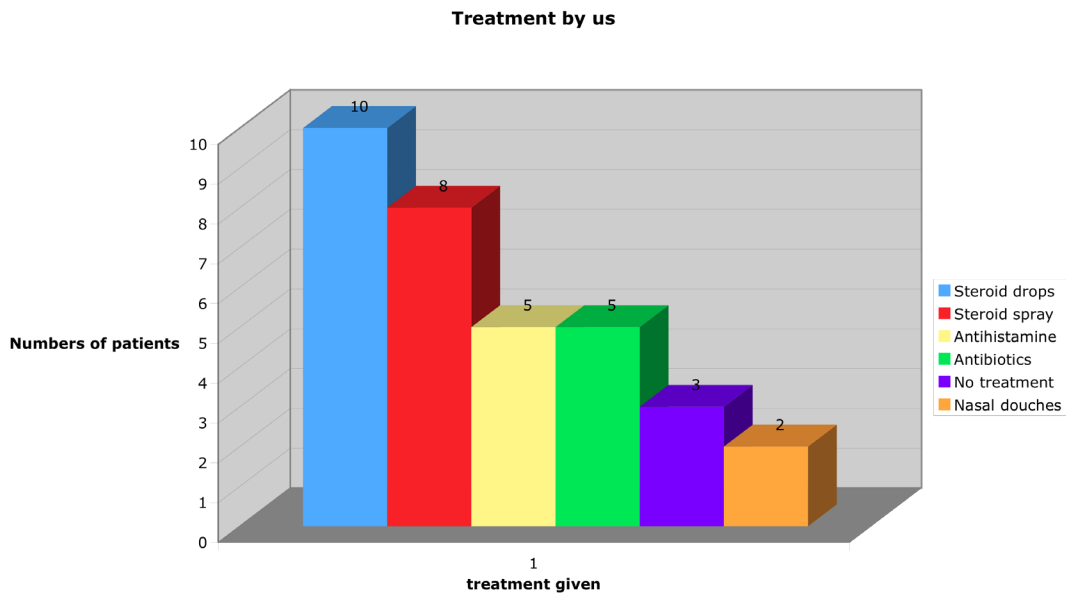


Figure 5: Outcome of patients following intervention

One patient (8%) failed to attend several appointments and was dismissed from the audit (figure 5). The mean time to decide if surgery was required in this group was 55.5 days with a standard deviation of 58, while it was 141.13 days in the first stage cohort with a standard deviation of 196.4.

### Discussion

The complexity of rhinosinusitis symptoms, and the way these symptoms overlap with other medical conditions, especially when local nasal signs are not present, makes surgical intervention an unattractive option to rhinologists. The disease is a combination of different pathological processes. It may also be associated with anatomical and environmental factors, but almost always allergy play a major role. Although surgical intervention may be a necessity when anatomical anomaly is the major underlying pathology, medical treatment is important for the allergic and infectious processes. Blockage to the complicated ventilation and drainage system within the middle meatus occurs at the beginning of the cycle of stasis and infection, and may be associated with polyp formation.

Previously, very few studies evaluated combined medical treatment of chronic rhinosinusitis, No conclusion has been reached from these studies.

Dubin et al(2) found that combined treatments were used 90% of the time when they surveyed the American Rhinologic Society members on the “maximal medical therapy” for rhinosinusitis. McNally et al(3) reported that all of their patients in a cohort of 200 showed subjective improvement in symptoms after three months treatment with a combination of antibiotics, nasal steroids, and decongestants. Dolor et al(4) in the CAFFS trial found that adding intranasal steroid sprays achieves a significantly higher rate of clinical success than placebo in rhinosinusitis (93.5% vs. 73.9%;  $p=0.009$ ).

In our audit, we prescribed the standard conservative medical treatment as suggested by the European position paper on rhinosinusitis and nasal polyps 2007(5), The nasal decongestant is meant to reduce the swelling within the middle meatus and the infundibulum, and re-establish the ventilation and drainage process(6). The steroidal spray will reduce the inflammatory process within the nasal and sinuses mucosa. The antibiotics will control the infection and increase ciliary beat frequency(7). The combined medical treatments were given in a particular sequence to insure meeting these pathological events. Patients were evaluated eight weeks later (mean 55.5 days) to observe for improvement and determine how needed to be listed for surgical treatment options. It was found that 84% improved and only 8% needed

to be listed for the surgical treatment. The average hospital visits were reduced from 2.7 visits to one visit per patient, the mean time of waiting for a decision reduced from 141.1 days to 55.5 days. The mean time to determine further treatment was reduced from 249.4 days to 177 days.

In conclusion, combined medical treatment for chronic and recurrent rhinosinusitis may reduce the need to treat these patients surgically and likely reduces their hospital visits.

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