

Medical Therapy in Chronic Rhinosinusitis

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Trial

Lal D, Scianna JM, Stankiewicz JA: Efficacy of targeted medical therapy in chronic rhinosinusitis, and predictors of failure. *Am J Rhinol Allergy* 2009, 23:396–400.

Rating

•Of importance.

Introduction

Medical therapy is generally accepted as the first-line treatment for chronic rhinosinusitis (CRS) and allows for alleviation of symptoms in most patients. However, at a certain stage of the disease, sinus surgery is usually necessary to control the symptoms. It has been recommended that sinus surgery be performed only after medical therapy fails, although there is no universally accepted definition of necessary medical therapy or recommended duration of the initial medical treatment. Various drugs alone or in combination have been used (oral and topical corticosteroids, oral antibiotics, nasal decongestants, and irrigation

with saline), but studies comparing the clinical efficacy of different treatment schemes are scant.

Aims

The goal of this study was to evaluate the effect of (predefined by the authors) standardized “targeted” medical therapy (TMT) in CRS to determine the necessity of surgical therapy in case of failure. Factors associated with poor response to medical therapy were also analyzed.

Methods

After reviewing the medical records of patients with CRS, 145 patients who were previously treated with TMT were recruited to the study. CRS was diagnosed based on CRS Task Force guidelines, and TMT was defined as a minimum 4-week treatment with oral antibiotics, oral steroids, topical nasal steroids, topical nasal decongestant rotation, and saline nasal douching. Detailed medical histories were recorded, current CRS symptoms were scored, and endoscopic severity was graded. Frontal sinus involvement was assessed by CT and scored.

All patients had received targeted medical therapy that included 4 weeks of treatment with antibiotics (amoxicillin/clavulanate, 875/125 mg twice daily, or clarithromycin, 500 mg twice daily), oral corticosteroids started with 60 mg of prednisone and tapered over 12 days, nasal steroids twice daily, and a rotation of topical decongestant (5 days on, 3 days off). Nasal saline douches were also used. The response was evaluated after 6–8 weeks, and “failure” of treatment was defined as relapse/persistence of signs/symptoms at 2 months. In case of the lack or incomplete

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resolution of symptoms and if CT and/or endoscopic findings persisted, the patient was referred for surgery. The results of therapy were reviewed to determine efficacy and analyze factors associated with failure.

Results

All patients completed medical treatment as prescribed and were observed for a minimum of 2 months. Seventy-four patients (51%) had complete resolution of all symptoms and were considered successfully treated. Only partial improvement in symptoms was noted in 26 patients (17.8%) , and surgery was performed in 45 patients (31%) who showed no response to medical treatment. Patients with partial or no improvement (49%) were considered treatment failures. The presence of nasal polyps was not associated with different response to medical treatment. Medical treatment was successful overall in 46.3% of patients with nasal polyps, compared with 54.9% of patients without nasal polyps; the difference was not statistically significant. Surgery was avoided in 60 of 82 (63.5%) patients without nasal polyps, compared with 40 of 63 (71.2%) with nasal polyps. The remaining patients (36.5% and 28.8% in each group, respectively) were considered “failures” but were not referred for nasal surgery. Response to treatment with amoxicillin/clavulanate or clarithromycin was similar.

After analyzing 24 variables from medical histories and examinations, only a history of facial pressure/pain ($P=0.049$), presence of mucosal inflammation ($P=0.013$), and higher endoscopic severity grade ($P=0.011$) were associated with failure of TMT.

Other variables, including asthma, atopy, allergy, polyps, nasal discharge, hyposmia/anosmia, CT score, and frontal sinus involvement, were not associated with the outcome of the medical treatment.

Discussion

This study demonstrated that the defined course of medical treatment, including oral antibiotics, oral steroids, topical nasal steroids, topical nasal decongestants, and saline nasal douching, may improve signs and symptoms in at least half of the patients with CRS. In two thirds of patients, medical treatment was beneficial in avoiding sinus surgery. Interestingly, response to treatment was similar regardless of the presence or absence of nasal polyps. The authors found that failure of medical treatment was associated with a history of facial pressure/pain, presence of mucosal inflammation, and higher endoscopic severity grade. As there is a paucity of evidence comparing different medical treatment options for

CRS, such information could be of value for routine rhinologic practice.

Comments

The treatment regimen in this study included a set of drugs (oral antibiotics, oral steroids, topical nasal steroids, topical nasal decongestants, and saline nasal douching) that are being used in routine practice for treatment of CRS; however, they are rarely recommended as a predefined and uniform regimen for nonselected patients with CRS and without consideration of the presence or absence of nasal polyposis. Although this approach is practical, the scientific rationale for the proposed drug regimen is not clear. For example, although antibiotics are effective in treating acute rhinosinusitis, there is little evidence supporting their effectiveness in the medical management of CRS or uncomplicated nasal polyposis. Systemic steroids, which are effective in treating CRS with nasal polyposis (improving even the sense of smell, in contrast to the effect of intranasal corticosteroids), usually are recommended only for advanced or refractory cases and have not been proven effective in CRS without nasal polyps. Furthermore, although in this study, duration of treatment with oral steroids (relatively short) was based on other recommendations, it is difficult to justify using topical steroids for only 4 weeks. Topical steroids in nasal sprays and, more recently, in nasal drops have been documented to be clinically effective in relieving symptoms and improving nasal patency in patients with CRS and nasal polyps, although the efficacy of steroids in reduction of the proportion of patients requiring surgery is less clear. Once symptoms have resolved, it is important to maintain improvement with long-term intranasal steroids; interrupting topical treatment after 4 weeks is not justified and may be responsible for treatment failures observed at 6–8 weeks of follow-up.

The evidence for efficacy of the proposed treatment of CRS would be stronger if authors used patient-based questionnaires and objective measures to assess the efficacy of treatment (e.g., assessment of nasal patency or nasal inflammation). However, the major drawback of the study is a lack of a control group, which does not allow us to assess the real effectiveness of this proposed set of medical treatments compared with spontaneous resolution of the disease.

In conclusion, although this study demonstrated that a combined drug regimen may be clinically effective in relieving symptoms and avoiding nasal surgery in CRS patients with and without nasal polyps, further studies are needed to find an optimal drug regimen for medical treatment of CRS.

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