Natural Approaches to Sinusitis Relief

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It is estimated that 50 million Americans are plagued with symptoms of sinusitis and related allergic conditions. At first glance, the potential severity, chronicity, and dramatic effect on an individual's quality of life is often discounted. Yet, as reflected in a recent study reviewing 120 individuals seen in a community-based otolaryngology practice, it was discovered that the mean length of being symptomatic with sinusitis or rhinitis was 3.5 years prior to seeking treatment from a specialist.[1] The journey taken by patients who are suffering from sinusitis prior to seeking further expertise traditionally included 87 percent of them having been seen at least by a primary care provider, 4 percent having been seen previously by an otolaryngologist, and many others who had tried complementary therapies, including dietary management, herbal treatment, exercise, and chiropractic.

Such reports, documenting not only the chronicity of sinusitis but also the relative desperation and frustration that arises from having this condition do not come as a surprise to the average clinician. Without question, sinusitis and allergic rhinitis are by far the most common and powerful illustration of how environmental factors can have severe, and at times debilitating, effects on a patient's life. Further compounding the sinusitis problem is that, despite aggressive medical and surgical therapy, many patients remain symptomatic.[1]

Classical Presenting Symptoms

Simply put, sinusitis is an upper-respiratory condition that involves inflammation of the sinus passages. There are four pairs of sinuses in the human skull that help to circulate moist air within the nasal passages. The most common genesis of sinusitis is the common cold. The classical symptoms that occur with sinusitis are nasal congestion with a thick yellow or green nasal discharge. Other common ailments associated with sinusitis are frontal headaches, tenderness and pain over the sinuses, a feeling of pressure, and, occasionally, chills and fever. Chronic sinusitis differs slightly, in that symptoms are typically less acute and severe, and manifesting symptoms may be limited to postnasal drip, throat irritation, with or without a cough, and halitosis (see Table 1).

Table 1. Common Symptoms of Sinusitis

- Nasal congestion
- Thick nasal discharge
- Pain or tenderness over affected sinus
- Sense of pressure and swelling above affected sinus
- Headache
- Postnasal drip
- Halitosis
- Cough
- Throat irritation or soreness

Causes of Sinusitis

Allergic rhinitis (hayfever), food allergens, dental infections, environmental triggers, and other irritants can all lead to acute or to chronic sinusitis. Clinically, the sinuses often serve, in large part, as the barometers of one's overall health and total allergic burden.

A powerful illustration of how sinusitis may be reflective of other processes going on within the body was a study reporting the possible relationship between gastroesophagopharyngeal acid reflux and the pathogenesis of chronic sinusitis. The study documented that there was a significantly higher pharyngeal reflux of gastric acid in patients with chronic sinusitis and that these patients were typically unresponsive to conventional therapy.[1] Similar relationships have been found between gastric health and sinusitis when it comes to *Helicobacter pylori*, the microbe now believed to be the causative agent in the majority of ulcers. Successful treatment of *H. pylori* not only eliminated ulcers but also relieved chronic sinusitis symptoms in a significant number of patients.[2] There is also growing evidence that an underlying infection may contribute to the chronicity of some cases of sinusitis. In a study of 46 patients with atrophic rhinitis, all nasal-swab cultures yielded pathogenic organisms with *Klebsiella* spp., particularly *K. ozaena*, being the most common bacteria isolated, all of which were 100 percent susceptible to cephalosporins. This finding was correlated with 58.7 percent of these patients who were also suffering from sinusitis as evidenced by either computed tomography scans or plain X-rays.[3]

The proverbial question that must be raised is: Which began first: the inflamed sinus passages or the bacterial infection? Clinically, the answer mostly likely lies in the concept of concurrent progression within the sinuses.

General Natural Medicine Approach

Sinusitis is traditionally treated naturally by using the principle of removing and addressing the cause of the underlying condition. In the case of sinusitis, the first step toward the pursuit of wellness is ensuring that sufficient water is being consumed. A minimum of 6–8 glasses of water is critical to maintain liquefied and free-flowing mucus, thus helping to flush

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Table 2. Summary of Possible Natural Medicine Interventions for Sinusitis

Pantothenic acid	250 mg 2–4 times per day
Vitamin C	1000 mg 2–3 times per day
Vitamin E (d-α-tocopherol)	400 IU 2 times per day
Selenium	200 mcg per day
N-acetylcysteine	500 mg 3 times a day
Stinging nettle (freeze dried)	300 mg 2–3 times per day
Bromelain (2400 MCU)	375 mg 2–3 times per day
Goldenseal	500 mg 3–4 times per day
Oregon grape	400 mg 3–4 times per day
Echinacea (*E. purpurea* or *E. augustifolia*)	500 mg 3–4 times per day

IU = international units; MCU = milk-clotting units.

potential environmental irritants out. In addition, moist mucous membranes are more resistant to infection, conceivably due, in part, to optimizing secretory IgA levels and membrane integrity.

Research has shown that 25–70 percent of individuals with allergies suffer from sinusitis.[4] Thus, as part of the overall approach, controlling environmental factors that may contribute to and exacerbate sinusitis is key. Simple ways of controlling potential irritants include the use of a room or central high-efficiency particulate air (HEPA) filter; using a vacuum with a HEPA filter to lessen the recirculation of allergens; keeping windows closed in the house and car to prevent exposure to pollen; washing down moist areas that can support mold and mildew growth; eliminating down and feather pillows and comforters; and encasing mattresses and pillows in allergen-shielding cases, thus decreasing dust-mite and allergen exposure.

Helpful tips for patients who have pets is to either keep them as indoor pets or to wash them regularly because they serve as reservoirs for outdoor allergens and dander. And, by far, the most overlooked way to control allergic components of sinusitis is to wash one's hair prior to going to bed, because, throughout the day, dust and pollen collect and can be inhaled while one is sleeping. Equally important is the avoidance of food sensitivities, food allergens, and other burdens upon the body, such as exposure to cigarette smoke.

Supporting and controlling the biochemical processes involved in the allergic cascade nutritionally can yield meaningful results in eliminating symptoms and in supporting overall health throughout the body.

Nutritional Considerations

In a preliminary trial, pantothenic-acid supplementation at a level of 250 mg 2 times per day was demonstrated to help most patients suffering from allergic rhinitis, a significant predisposing factor for sinusitis.[5]

Vitamin C supplementation at dosages of 1000 mg, 3 times per day, reduced histamine, thus, decreasing nasal and sinus congestion.[6] This therapy was effective in individuals with either high histamine levels or low blood levels of vitamin C. A similar finding was observed when 2000 mg of vitamin C was administered to subjects prior to a histamine challenge.[7]

There is growing evidence that general antioxidant supplementation can prove to be helpful when treating individuals suffering from chronic sinusitis. In a study that examined and compared the mucosa samples of healthy patients and of those suffering from chronic sinusitis. The results showed that both glutathione (in its reduced form) and uric-acid levels were lower in patients with sinusitis than in healthy controls. It has been concluded that the decreased levels of these antioxidants lead to diminished antioxidant defense, which may be connected to the related pathogenesis seen in this upper-respiratory tract condition.[8] Although the effects of other antioxidants are not yet well known, when it comes to maintaining healthy sinuses, empirical clinical findings support the value of enhancing overall antioxidant support.

Other antioxidants that have been found to be useful clinically include vitamin E, selenium and N-acetylcysteine (NAC). Vitamin E and selenium work synergistically in optimizing and promoting biochemical pathways, and vitamin E is well known for playing an essential role in maintaining and protecting epithelial tissue health. Selenium, in turn, not only supports vitamin E's antioxidant effects, but also participates in the functioning of the enzyme glutathione peroxidase.[9] NAC is helpful for the treatment of sinusitis because it has the ability to help cleave disulfide bonds that increase the tenacious nature of mucus, thus allowing it to flow more readily. In addition, NAC has been shown to help increase glutathione protection within the body, hence, conferring additional protection to the sinuses.

Plant-Based Therapies

Bromelain (*Ananas comosus*), an enzyme derived from the pineapple plant, has been shown to be helpful clinically in relieving the symptoms of acute sinusitis. In a double-blind study comparing the use of bromelain to placebo, 87 percent of patients who took bromelain reported good to excellent results.[10] This was in contrast to the placebo group who reported a 68 percent effectiveness. The effectiveness of bromelain for the treatment of sinusitis has also been shown in other double-blind studies.[11,12]

Stinging nettle (*Urtica dioicia*), when used in the freeze-dried form during a week-long trial at dosage levels of 300 mg 2 times per day, showed moderate effec-

Preliminary findings have shown that patients with otherwise clinically nonresponsive sinusitis appear to benefit from the use of allicin nasal spray.

tiveness among 58 percent of participants in a study, compared to 37 percent in the placebo group for that study.[13]

Controlling Bacterial Sinusitis

The conventional approach to treating acute and chronic bacterial sinusitis has been antibiotic therapy.[14,15] The evidence supporting this approach has recently come under question. Yet, with studies showing the presence of potential pathogens on nasal smears of individuals who are suffering from sinusitis, there is definitely room for the use of antibacterial therapeutics when a bacterial component is definitively identified. Without question, there are times that patients with sinusitis need an immediate and powerful intervention. This often occurs when the patient's body has become run down from the chronicity of the infection or as a result of prolonged stress or an overwhelming allergic burden. Depending upon the severity of the infection and an individual's vitality, antibacterial botanicals can also prove to be powerful adjunctive therapies when treating bacterial sinusitis.

The most popular botanicals for the treatment of sinusitis include goldenseal (*Hydrastis canadensis*), Oregon grape (*Mahonia aquifolium*), echinacea (*Echinacea purpurea* or *angustifolia*), and garlic (*Allium sativum*). Both goldenseal and Oregon grape have broad-spectrum antimicrobial effects and have proven themselves to be beneficial clinically when treating sinusitis with an overall complementary medicine approach.[16,17] In turn, echinacea helps to bolster overall immune responsiveness and, although it is not a powerful antimicrobial, it is typically included in combination immune supportive formulas. And, by far the most interesting creative use of a botanical, as of late, has been the use of garlic in a nasal spray suspended in dimethylsulfoxide. Preliminary findings have shown that patients with otherwise clinically nonresponsive sinusitis appear to benefit from the use of allicin nasal spray.

Therapeutic Summary

Sinusitis is best treated by identifying and addressing the underlying trigger. Often, the easiest variables to control are allergic predisposing factors, particularly environmental and, in chronic cases, food sensitivities. Nourishing the body during either an acute or chronic case of sinusitis can not only aid in mitigating symptoms, but bolster the body's resistance to a superimposed bacterial infection or a resulting chronic condition.

Combining antioxidant support with botanicals and nutrients, such as freeze-dried stinging nettles or bromelain and consuming 6–8 glasses of water per day, is usually a good first step. For patients who do not respond fully to a general supportive approach and for those who do not have the immune responsiveness needed to overcome the sinusitis, using a combination of the botanicals discussed above can often shift the balance towards wellness.

For patients with unresolved chronic cases of sinusitis, it is of paramount importance to determine the true root cause of the original sinusitis. It is through this process of detective work that the underlying cause that may have begun to affect a person months or sometimes years earlier can be identified and eliminated. □

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