Topical Powdered Steroid and Antibiotic for the Treatment of Recalcitrant Sinusitis

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Objectives

This study was conducted to determine the efficacy of powder delivery of steroids and antibiotics to patients with recalcitrant sinusitis. It is well known that a small portion of patients continue to experience symptoms of sinusitis following sinus surgery despite lack of anatomic obstruction and patent ostia. Because sinus ostia are patent after surgery, it would seem plausible to attempt use of an intranasal powder delivery method of concentrated solutions of topical antibiotic and steroid agents.

Methods

Six eligible patients were recruited whom met criteria. These criteria included continued nasal purulence following full FESS for a period of at least 12 weeks, minimal response to topical nasal steroids and continued need for oral antibiotics. Each received daily applications of 3% and 10% of ciprofloxacin with dexamethasone, respectively, for a 4-week period in a dried lactose carrier powder. Powders were introduced into the sinus cavities with the plastic aerosolizer. After a 4-week treatment period, subjects were reevaluated with questionnaire (SNOT-22).

Results

Reduction in sinus symptoms were noted on SNOT-22 by all six patients included. Specifically, reduction in facial pressure, pain, nasal congestion and rhinorrhea were most notable. These values averaged 3.8 +/- 0.4 point reduction in each category mentioned. Subjects continued to have difficulties with sleep if they experienced problems prior to treatment.

Conclusion

Taken together, our results provide evidence that powdered application of antibiotics and steroids directly to the nasal mucosa may be a viable treatment option in those patients with recalcitrant sinus disease.

Future Aims

Currently conducting randomized control trial with Powder vs. oral antibiotics. Data collection will include nasal endoscopy, SNOT-22 and mucosal biopsy.