

Dollars, dust, and Draf

As much as the etiology of chronic rhinosinusitis (CRS) is multifactorial, the management of the disease is complex, with varying degrees of subjectivity mixed with the available objective measures to help the practicing physician determine the best way to treat a patient. Patient financial factors may come into play that influence the course of management prescribed. Comorbidities that may delay or accelerate a surgical intervention need to be managed. Also, if a surgical intervention is needed, there are nuances to techniques and materials used to achieve optimal surgical results that not only include disease resolution but also increase the patient experience at a lower cost. At the end of the day, we still have much to learn about the etiology of CRS, and personalizing the etiology for each patient may make diagnosis and treatment that much more objective and effective.

The July 2017 edition of *AJRA* examines these complexities in depth, and I invite you to dig into this excellent edition. Yip *et al.*¹ looks at the personal financial burden of CRS in a publicly funded health care system. The results may surprise you, and it gives us a greater appreciation for the costs, both direct and indirect, that this disease has on all health care systems.

The financial impact of CRS is further augmented by the comorbidities that often accompany the disease. Hoehle *et al.*² wrote about individual allergic rhinitis symptoms and how sleep and otologic symptoms are associated with the greatest negative impact on quality of life in adults with persistent allergic rhinitis. I have always believed in optimizing the management of allergic rhinitis before considering a patient for surgical therapy. DelGaudio *et al.*³ agreed and described an entity that they titled central compartment atopic disease. These are patients who had edema along the middle turbinates and sparing of the peripheral sinuses. There was an association with allergic rhinitis in these patients, and aggressive management of that comorbidity may halt the progression to more severe CRS. What is the best way to manage allergic rhinitis? Guo *et al.*⁴ present a double-blind placebo controlled trial that showed the efficacy of sublingual house-dust mite extract over placebo for patients with allergic rhinitis.

Cost considerations are also in play when we think about the products that are used intra- and perioperatively for endoscopic sinus surgery. There are two systematic reviews that looked at the efficacy of two different types of packing materials used in the sinuses after surgery. Chen *et al.*⁵ looked at the literature surrounding the use of hyaluronan nasal dressing and found improved mucosal reepithelization and decreased edema after surgery. Lange *et al.*⁶ also performed a systematic review that looked at the need for postoperative antibiotics when nasal packing was used.

Canada has a publicly funded health system but the United States has multiple payers that are increasingly looking at reim-



Alexander G. Chiu, M.D.

bursing based on performance over volume. As such, there are an increasing number of studies that looked at our interventions and how they were perceived by our patients. Prasad *et al.*⁷ wrote a systematic review of patient-reported outcomes after revision endoscopic sinus surgery. Jiam *et al.*⁸ focused on the ability of functional endoscopic sinus surgery to rescue a dental implant that resulted in CRS. In a hypothetical situation, I sure would be a happier patient if I could save the big money spent on an implant! Chandra⁹ reviewed different techniques for performing an endoscopic septoplasty, and Scattolin *et al.*¹⁰ wrote about their successes with using a septal extension graft in a closed revision rhinoplasty. Finally, Jafari *et al.*¹¹ looked at patient-reported subjective measures and postoperative visits of patients who underwent Draf III procedures versus IIa. Rest in Peace Professor Draf, we honor your legacy with every article written on your pioneering procedures for the frontal sinus.

As I mentioned in the opening paragraph, we must not lose sight in the importance of mechanistic investigations that look into the etiology and pathways associated with CRS. Carey *et al.*¹² continues Noam Cohen's bitter taste receptors (T2R) crusade, and this time looked at T2R-mediated nitric oxide response to a local bacteria. Lee *et al.*¹³ looked at a potential relationship between CRS and metabolic syndrome (I will not cheat and explain to you what metabolic syndrome is; you will have to read the article to find out yourself!). Finally, Du *et al.*¹⁴ looked at osteopontin and vascular endothelial growth factor production in nasal polyp cells.

Thank you *AJRA* for the opportunity to pen this guest editorial. A toast for a relaxing and rewarding summer to all.

REFERENCES

1. Yip J, Vescan AD, Witterick IJ, et al. The personal financial burden of chronic rhinosinusitis: A Canadian perspective. *Am J Rhinol Allergy* 31:216–221, 2017.
2. Hoehle LP, Speth, MM, Phillips, KM, et al. Association between symptoms of allergic rhinitis with decreased general health-related quality of life. *Am J Rhinol Allergy* 31:235–239, 2017.
3. DelGaudio JM, Loftus PA, Hamizan AW, et al. Central compartment atopic disease. *Am J Rhinol Allergy* 31:228–234, 2017.
4. Guo Y, Yanqing L, Wang D, et al. A randomized double-blind placebo controlled trial of sublingual immunotherapy with house-dust mite extract for allergic rhinitis. *Am J Rhinol Allergy* 31:e42–e47, 2017.
5. Chen J, Wang X, Chen L, et al. Influence of hyaluronan nasal dressing on clinical outcome after endoscopic sinus surgery: A systematic review and meta-analysis. *Am J Rhinol Allergy* 31:256–259, 2017.

6. Lange JL, Peeden EH, and Stringer SP. Are prophylactic systemic antibiotics necessary with nasal packing? A systematic review. *Am J Rhinol Allergy* 31:240–247, 2017.
7. Prasad S, Fong E, and Ooi EH. Systematic review of patient reported outcomes after revision endoscopic sinus surgery. *Am J Rhinol Allergy* 31:248–255, 2017.
8. Jiam NTL, Goldberg AN, Murr AH, et al. Surgical treatment of chronic rhinosinusitis after sinus lift. *Am J Rhinol Allergy* 31:271–275, 2017.
9. Chandra RK. Endoscopic septoplasty: How I do it. *Am J Rhinol Allergy* 31:276–277, 2017.
10. Scattolin A, Galzignato P-F, Longari F, et al. Septal extension graft in “closed” revision rhinoplasty: A simplified technique. *Am J Rhinol Allergy* 31:260–264, 2017.
11. Jafari A, Tringale KR, Panuganti BA, et al. Short-term morbidity after the endoscopic modified Lothrop (Draf-III) procedure compared with Draf-IIa. *Am J Rhinol Allergy* 31:265–270, 2017.
12. Carey RM, Workman AD, Yan CH, et al. Sinonasal T2R-mediated nitric oxide production in response to *Bacillus cereus*. *Am J Rhinol Allergy* 31:211–215, 2017.
13. Lee EJ, Hwang HJ, Jung CM, et al. The relationship between chronic rhinosinusitis and metabolic syndrome. *Am J Rhinol Allergy* 31:222–227, 2017.
14. Du J, Mao H, Ouyang H, et al. Osteopontin induced vascular endothelial growth factor production in dispersed nasal polyp cells through the phosphatidylinositol 3-kinase–protein kinase B and the extracellular signal-regulated kinase 1/2 pathways. *Am J Rhinol Allergy* 31:e35–e41, 2017. □