



Failed FESS: What Would Be The Next Step?

Mohannad Al-Qudah

ORL & HNS Department, Jordan University of Science & Technology, Irbid, Jordan

Email: malqudah@gmail.com

Dear Editor,

Management of the small percentage of chronic rhinosinusitis (CRS) patients who continue to be symptomatic after appropriate functional endoscopic sinus procedure (FESS) is challenging and complex. This group of patients, often referred to refractory CRS, is increasingly seen in tertiary academic centers as FESS becomes popular procedure in otolaryngology. We have been involved in treating these patients over the last five years and would like to share briefly our experience and protocol algorithm.

Patients with obvious medical history such as common variable immunodeficiency, granulomatous diseases or ciliary disorders are often got the diagnosis early in their life span. Persistent sinus symptoms as first clinical presentation are rare in these cases. Detailed history, proper endoscopic examination and radiological evaluation are the first step in our protocol. The primary aim is to figure out whether the etiology behind the disease process is obstruction or non-obstruction.

Obstructed cases are usually required revision sinus surgery. Polyps, scar tissue, synechiae, residual infected cells and lateralization of middle turbinate are common pathological findings of poorly ventilated sinuses after surgery.

Non obstructed cases are more difficult to manage. Systemic and mucosal disorders can be contributing factors. The concept of subtle immune dysfunction in refractory sinusitis is well established.⁽¹⁾ These patients have almost normal level for major immunoglobulins however they usually have low level of IgG subclasses and poor response to polysaccharide bacteria, they may also have recurrent mild systemic infections in urinary

tract, skin and respiratory system. Such patients are usually doing well on long alternative oral course of two different broad spectrum antibiotics. A thorough immune and allergy evaluation is essential in this group of patients.

Biofilm growth in refractory CRS has been reported to be higher than in CRS and control patients.^(2,3) Biofilm can answer the 2 ambiguous questions: the high rate of negative culture and the temporary improvement on antibiotics in these patients. It can act as a nidus for intermittently release free floating bacteria in the sinuses mucosa and thus be responsible for the intermittent chronic symptoms.

Naso-sinus mucosa and its underlying bone are one communicating unit. Osteitis and neo-osteogenesis are common findings in refractory patients' CT scan. It is highly possible that patients with subtle immunodeficiency have higher rate than others to harbor biofilm in their sinuses and biofilms act as a 'depot' for low grade bacterial production and be responsible for the release of soluble bacterial virulence factors that generate local bony changes.

We recommend approaching these patients with aggressive debridement, encourage nasal irrigation and applied topical antibiotic as well as anti-inflammatory medications on the inflamed mucosa for at least one month. Indeed further studies in this assumption theoretical etiology and management plan are in need and required the cooperation between major sinus centers in our region.

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