

Refractory Chronic Rhinosinusitis: A new Rhinological Disease



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Editorial

Functional Endoscopic Sinus Surgery (FESS) becomes the treatment of choice for medically resistant chronic rhinosinusitis (CRS). The procedure improves quality of life, symptomatic & endoscopic scores in CRS patients. However, a subgroup of patients continues to be symptomatic even after maximum medical treatment and proper surgical therapy. Because CRS is common and FESS is frequent otolaryngology procedure these patients started to form significant portion in tertiary academic referral centers daily practice. FESS can fail due to many reasons. Postoperative adhesion, Middle turbinate lateralization, scar tissue, persistent infected cell, recurrent polyposis or spread of infection beyond its primary anatomical location. All these are factors commonly cited as reasons of reluctant sinusitis. Avoidance of these causes are mainly depend on surgeon's experience, technique, instrumentations, planned regular follow up care as well as patient's disease specific factors but they all can be preventable [1,2].

Refractory chronic rhinosinusitis (RCRS) is another group. They share persistent nasal complaints with the previous patients but they do differ in clinical endoscopic and radiological examination and predisposing etiology. Although these patients don't have any endoscopic or radiological evidences of obstruction; so surgical management option isn't feasible; they have signs of sinus mucosal thickening and opacification. This group who has no obstructive ostia or clear underlying medical causes of failure is actually the true refractory group do [1]. Although different medical specialties had addressed the role of biofilm in their chronic patients many years ago, it is only first introduce to the rhinology literature in 2004 when Cryer et al used scanning electron microscopy to evaluate patients with continued symptoms of chronic sinusitis despite prior appropriate medical and surgical management. They were able to proof the presence of bacterial biofilms on the sinus mucosa of patients infected with *Pseudomonas aeruginosa*, a known biofilm former [3].

High prevalence of humoral immunodeficiency patients with refractory chronic rhinosinusitis have been reported in

many studies [4], however these studies didn't include controls to compare the prevalence with CRS. In a recent work, authors compared the results of their IgA, IgM, IgG, and IgG subclasses two hundred and fifty-seven consecutive patients with RCRS with 75 age- and gender-matched control groups. They found CRS patients had a significant higher prevalence of major immunoglobulins as well as total major immunoglobulins and IgG subclasses deficiency. Because of high prevalence of subtle humoral immunodeficiency in RCRS and inability to find unique clinical and demographic characteristic of these patients, they recommend routine screening of major immunoglobulins and IgG subclasses in all RCRS patients [5].

These findings are interesting. RCRS patients may have a form of subtle immunodeficiency preventing forming proper memory immunity making patients ability in resistance biofilm formation limited and this may facilitate infection spreading to the bone with neoosteogenesis formation. Unfortunately studies in literature haven't differentiated between obstructed and non-obstructed reluctant groups in their methodology making it difficult to firmly interrupt the true refractory group clinical features and characteristic and tested this theory. We believe RCRS terminology should only use for those patients with persistent symptoms who have no clinical or radiological evidences of obstruction. Further studies are needed to focus in this new group of CRS patients to identify their characteristic and clinical features to build up fruitful management algorithm guideline.

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