Chronic Odontogenic Rhinosinusitis: Optimization of Surgical Treatment Indications

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To the Editor,

We first wish to commend Simuntis and colleagues on prospectively analyzing outcomes of primary dental extraction in patients with odontogenic sinusitis (ODS) due to apical periodontitis. This is an important area of study, and while dental extraction may seem like an obvious treatment modality to address such pathology, very few studies have assessed its efficacy. Prior smaller studies have shown success rates of primary dental extraction for ODS to range from 40–50%. Simuntis and colleagues generated the largest prospective series to-date on this topic, and showed primary dental extraction to be successful in 77% of cases, with sinus surgery being reserved only for failed dental treatment. However, there were some significant limitations with regard to their study population, and we felt it important to discuss these further than what was discussed in their paper’s study limitations.

First, they included sinusitis patients based on degrees of mucosal thickening only, with 56.2% of patients having <5 mm or 5–10 mm of sinus mucosal thickening, and 43.8% having >10 mm of mucosal thickening. However, diagnosing ODS based on maxillary sinus mucosal thickening alone can be misleading. Maxillary sinus mucosal thickening is very common in patients with any dental disease or prior dental procedures, but past studies have not correlated imaging findings with patients’ symptoms or nasal endoscopic findings. While neither guidelines nor consensus have been established for diagnosing ODS, literature-to-date would support that sinus mucosal thickening alone is not a reliable criterion for diagnosing ODS. A second concern was that they did not include pre-extraction nasal endoscopy findings, making it difficult to determine whether patients with sinus mucosal thickening had infectious ODS.

Lastly, none of the included ODS patients had extramaxillary sinus extension. Multiple studies have shown ODS frequently involving anterior ethmoid and frontal sinuses, and extramaxillary disease could potentially lessen dental treatment success. Overall, including patients with only maxillary sinus mucosal thickening without confirmed infection on nasal endoscopy made drawing conclusions from this study problematic. Not only were they treating less severe ODS, it is possible that some patients did not have ODS, but instead had odontogenic pathology with adjacent reactive sinus inflammation. These issues could have accounted for the study’s higher dental extraction success rate compared to prior studies.

While it may be intuitive that dental extraction should resolve a significant proportion of ODS due to endodontic disease, primary dental treatments for ODS in our practices in Milan, Italy and Detroit, MI (USA) have demonstrated lower success rates on the order of 30–50%, similar to prior smaller series. Therefore this important question requires more methodical study in the future.

This is an exciting time in ODS research, and this study was an excellent step toward optimizing ODS management, but further study is necessary. We feel sinus surgery plays an important complimentary role in ODS patients both in patients with severe sinonasal symptoms, and in patients who fail primary dental treatment. Future studies will help us better understand the optimal role of sinus surgery in the setting of ODS.

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