

The future of endoscopic sinus surgery in chronic rhinosinusitis

The new issue of *Rhinology* reflects the wide range of topics covered by our field, spanning epistaxis, fungal sinusitis, and olfaction, as well as tissue biomarkers that characterize inflammatory processes. As always, the studies are insightful, methodologically sound, and offer new perspectives for the treatment of the diseases that occupy rhinologists. Continuous progress in our field promises considerable benefits for our patients (Abdelghany and Besevli, this issue).

This optimistic outlook on improved patient care has been particularly strengthened by the introduction of effective biotherapies targeting type II inflammatory rhinosinusitis ⁽¹⁾. Simultaneously, these advances have generated concerns and debate regarding the future role of endoscopic sinus surgery (ESS) in chronic rhinosinusitis with nasal polyps (CRSwNP). Surgery remains the primary therapeutic approach for rare conditions such as juvenile nasopharyngeal angiofibroma (El Haddouchi, this issue), as well as for more common conditions including fungal sinusitis (Zou, this issue), mechanical nasal obstruction ⁽²⁾, and aesthetic indications ⁽³⁾.

However, in light of increasing real-world evidence supporting the efficacy of biotherapies ⁽⁴⁾ (and Caminati, this issue), it is becoming clear that the routine use of first-line ESS for all CRSwNP patients deemed refractory to topical corticosteroids may soon be questioned. It is, however, difficult to foresee precisely where the journey goes but much indicates that surgery won't be a routine, but a personalized procedure targeted towards a specific symptom more than a pathology.

Biotherapies have demonstrated superiority in treating olfactory impairment associated with CRSwNP compared to ESS ^(5,6). In contrast, ESS remains a cost-effective and equally effective treatment option when nasal polyp burden and nasal obstruction are the primary concerns (Majeethia, this issue). Furthermore, olfactory function seems vulnerable to ESS in an age-dependent manner (Kim, this issue). Thus, a CRSwNP patient whose main complaint is smell loss and not nasal obstruction may be treated differently than if the main complaint was inverse.

Such considerations will become increasingly important as real-world data accumulate, enabling more refined, symptom-based, and personalized first-line treatment strategies for patients who do not respond to topical corticosteroids. The definition of what constitutes "adequate" or "complete" surgery also warrants further discussion. While attempts have been made to quantify surgical completeness ^(7,8), Lazzeroni et al. (this issue) highlight suboptimal outcomes even in patients who have undergone multiple procedures questioning the value of revision surgery. Kemp (this issue) reports that revision surgery is rarely required in patients who have undergone primary ESS and are subsequently treated with dupilumab. This raises an additional question: would these patients have required biotherapy if the initial surgery had been more complete?

There are currently more open questions than definite answers when it comes to the exact role of ESS in CRSwNP. Many factors will determine the future of ESS in CRSwNP, such as costs generated by biotherapies, further real-world data and increased granularity in targeted symptom-based treatment modalities ⁽⁹⁾. Patients are partners and we shall not underestimate by what they may be intrigued by. Frequently asked questions before starting a biotherapy, are "do I need to take it all my life?" and "are you sure there are truly no long-term side-effects?"

The future role of ESS in CRSwNP will also depend on whether biotherapies prove to be disease-modifying, potentially allowing treatment discontinuation, as well as on the long-term safety profile of these therapies in an ageing population increasingly exposed to multiple biologic treatments for other chronic conditions, with the potential for multiple drug interactions. Endoscopic sinus surgery will not disappear from the management of CRSwNP, but its indications are likely to become more precise and personalized, and achieving a well-defined degree of surgical completeness will probably become more important than it is today.

I wish you an enjoyable read and a pleasant summer.

by Basile N. Landis, Geneva, Switzerland

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