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In Response to *Endoscopic Cold Incision, Balloon Dilation, Mitomycin C Application, and Steroid Injection for Adult Laryngotracheal Stenosis*

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In Reply

We appreciate the very kind words of Drs. Deeb and Kalejaiye and their interest in generating additional discussion on this interesting topic.

Our intent was not to make claims about distributions of etiologies or to challenge nomenclature that has been used in related studies,^{1–3} but rather to present a long-term experience in an inclusive manner. Our hope was that the availability of data of this type would lead to follow-up discussions and support future studies.

With respect to the first question regarding the proportion of cases attributed to an *idiopathic* etiology, we were aware of a risk of misclassification bias, and therefore performed the subgroup analyses described in the article to assess whether there appeared to be major differences between intubated idiopathic (II), nonintubated idiopathic (NI), and prolonged intubation (PI) etiologies (Table V). It was observed that the briefly intubated and nonintubated patients were more similar to each other than either subgroup compared with the PI patients. It is certainly possible for a routine or brief intubation to be associated with the subsequent diagnosis of an airway stenosis, but the stenosis characteristics of the two subgroups (II and NI) appeared similar on this analysis. Therefore, for the final line in Table V, the two subgroups were combined into a single group that we called idiopathic in the text. Our goals in doing this were not to imply that we believe that a routine intubation is equivalent to no intubation in terms of the risks of subsequent stenosis, but rather to simplify the comparisons to be able to make some potentially useful observations. Our hope was that by clearly explaining that 1) the idiopathic group did contain a subset of patients who had been previously intubated, and 2) their stenosis characteristics did not appear to be markedly

different from patients who had never been intubated, we would maintain sufficient transparency to allow the reader to draw independent conclusions.

We did, incidentally, note a typographical error in Table IV, in which the standard deviation for the nonintubated idiopathic group should have been 4.7 mm not 47 mm.

The second question raises the issue of terminology of laryngotracheal stenosis versus laryngeal, tracheal, and/or subglottic stenoses. The commenters suggest that a new staging system for laryngeal and tracheal stenosis would be useful. We interpreted this to be a statement of opinion rather than a comment on our findings.

We wished to avoid excluding subsets of patients in our airway stenosis population or drawing potentially arbitrary anatomic divisions that could be misleading. None of the patients had multiple distinct sites of stenosis, but in some cases the stenotic region spanned multiple sites, which could have made those patients difficult to categorize to a single anatomic subsite. The commenters are accurate in observing that the mean of the measurements suggests that the majority of patients presented with subglottic stenosis, but the relatively large standard deviations reflect the variability that we observed in location and length. Given this variability, we used the broader terminology of *laryngotracheal stenosis*, and all procedures in the study were kept uniform regardless of stenosis characteristics. We hope future studies will include sufficient patients to allow more specific anatomic subcategorization.

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