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INVITED COMMENTARY

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New insights in the surgical treatment of long-segment congenital tracheal stenosis

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Management of congenital tracheal stenosis (CTS) remains a clinical challenge. There is no doubt that slide tracheoplasty was a milestone in the surgical treatment of CTS that dramatically improved the outcomes of this rare airway malformation [1–3]. However, several concerns such as antenatal diagnosis, management of associated airway anomalies, case selection for conservative or palliative care, among others, still remain [4].

The article of Wen *et al.* [5] in this issue of the journal is focused on the relevance of diagnosing and treating tracheobronchial malacia at the same time CTS is addressed. This research work is remarkable in many senses but very especially because of the outstanding number of patients treated. The authors refer to 424 cases of CTS, 216 with long-segment stenosis, in an 11-year study period. These numbers are unique and no institution or tracheal team all over the world can show something similar. There is no doubt that the authors provide a large amount of clinical information that has a relevant educational value.

Preoperative tracheobronchial malacia appears to be a very frequently associated airway anomaly in their series (73.6%). This incidence distinctly differs from values below 25% reported by other authors [2, 4]. This fact may drive to the conclusion that this condition may be overdiagnosed in their study. Indeed, malacia may be present in patients with CTS, usually at the carina and/or main bronchi, but it is difficult to imagine collapse of complete tracheal rings as the authors suggest. More frequently, tracheomalacia may develop postoperatively due to the long and oblique suture line of the tracheal reconstruction resulting in an elliptic shape lumen. This fact together with the soft cartilaginous support of the neonatal trachea makes it prone to collapse. This complication may delay extubation and require additional endoscopic procedures if it persists [6]. The main contribution of this study relies on the surgical tips that the authors propose for treating eventual postoperative malacia when performing slide tracheoplasty. The concept of 'better carina, better slide', as they state, has a lot of sense and doing an anterior carina tracheopexy may improve the clinical outcomes of slide tracheoplasty. On the other hand, I would warn against excessive 'trimming' at the ends of the tracheal flaps because it may add more tension to the anastomosis. Grillo [7], mentor of several generations of tracheal surgeons worldwide, made the following aphorism: 'The tracheal tailor rapidly runs out of cloth'. This assertion applies too for slide tracheoplasty. Another matter of concern is the use of intravenous infusion of methylprednisolone in the postoperative period as the authors state. Systemic steroids may impair tracheal healing so their use should be restricted in the immediate postoperative period.

Albeit these remarks, this article provides many useful data due to the thorough study of the cases. It is a good choice to include a functional/clinical classification together with the standard morphologic one. Patients with CTS may exhibit different grades of respiratory embarrassment and some of them may even be almost asymptomatic not requiring surgical treatment at all. The authors do not address this specific issue in their study but, because of the large number of cases they manage every year, I would encourage them to continue their research work and try to give new answers to the questions that CTS keeps posing.

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