Hold your horses: A comparison of human laryngomalacia with analogous equine airway pathology

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Conclusion
Conditions causing dynamic collapse of the equine larynx, especially Axial Deviation of the Aryepiglottic Folds (ADAF), have clinical features analogous to human laryngomalacia. Unfortunately the aetiology of ADAF is less well understood than that of laryngomalacia. Although this review didn’t identify any new or different treatment approaches in the equine model that may have been applicable to humans, the literature on the management approach to ADAF is consistent with the treatment of laryngomalacia.

Introduction
The term laryngomalacia was coined in 1942 [1], and describes the inward collapse of supraglottic structures on inspiration. It is the most common cause of stridor in neonates and infants, accounting for between 45 and 75% of cases [2].

Late-onset laryngomalacia is also described in the literature and is reported to affect a subgroup of older children who present with exercise-induced respiratory symptoms. In horses, dynamic airway collapse is a group of disorders that cause transient, usually exercise induced, obstruction of the equine pharynx, larynx or both.

One condition in particular, Axial Deviation of the Aryepiglottic Folds (ADAF), has clinical symptoms and endoscopic findings analogous to human laryngomalacia. Dynamic airway collapse is a collection of upper respiratory tract (URT) disorders in horses. It is a well-recognised and researched entity, with clinical identification driven by Owners and Trainers investigating poor performance in competition horses characterised by inspiratory stridor and prolonged recovery times.

The goal of the poster
We compare the aetiology, clinical features and management of human laryngomalacia with equine dynamic airway collapse.

Methods
A structured review of the PubMed, the Ovid Medline and the Cochrane Collaboration databases (Cochrane Central Register of Controlled Trials, Cochrane Database of Systemic Reviews) was undertaken.

In this review, we focus on the aetiology, diagnosis and management of human laryngomalacia and compare and contrast this with conditions accounting for equine dynamic airway collapse.

Results
There are numerous equine conditions that cause dynamic airway collapse defined specifically by the anatomical structures involved (Table 1). ADAF is the condition most clinically analogous to laryngomalacia in humans, and is likewise most prevalent in the immature equine airway.

Both conditions are managed either conservatively, or if symptoms require it, with surgical intervention. The operative procedures performed for ADAF and laryngomalacia are technically comparable.

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<tr>
<th>Procedure</th>
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<td>Vocal cord release</td>
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One image is shown.

Fig. 1. An image taken during an airway endoscopy of a human paediatric patient with laryngomalacia. Anterior prolapse of throat mucosa overlapping the left arytenoid mucosa (A) and an elongated and tubular epiglottis (E) are characteristic features of laryngomalacia.

References