

Dynamic laryngeal narrowing in COPD may have effects on the trachea

RESPONSE

We thank Leong and colleagues for their comments regarding our manuscript¹ and for highlighting the role of the central airways in modulating pressure and airflow in patients with a label of 'obstructive airways disease'.² We agree that a functional role of the glottis may indeed be to regulate and interact with excessive dynamic airway narrowing.

Their group have previously highlighted the utility of a 320-slice CT imaging protocol in characterising the high prevalence of laryngeal closure in patients with severe asthma,³ and thus this and other novel CT techniques⁴ certainly have the potential to enlighten us regarding the interaction between laryngeal and large airway movement in obstructive airways disease. Nevertheless, while acknowledging this work, several limitations of these techniques exist, including the recurrent use of ionising radiation, inherent difficulties in gathering a prolonged period of data and collecting data under the setting of relevant physiological stress, that is, exercise, or indeed even in the upright position.

Moreover, we feel that caution, and likely further data, is needed when considering the degree to which large airway narrowing should be classified as 'excessive'. Some reports indicate that over half of any asymptomatic cohort may reduce tracheal dimensions to 50% during a dynamic manoeuvre and thus more conservative estimates (eg, >90% narrowing) may be appropriate.⁵

Regardless, the interaction between the larynx and large central airways is certainly in need of further investigation if to enlighten us regarding the physiological basis of the pervasive and debilitating exertional limitation that exists in chronic obstructive lung disease.⁶

G S Haji,^{1,2} M I Polkey,^{1,2} J H Hull^{1,2}

¹Department of Respiratory Medicine, Royal Brompton Hospital, London, UK

²NIHR Respiratory Biomedical Research Unit, Royal Brompton & Harefield NHS Foundation Trust and Imperial College, London, UK

Correspondence to Dr J H Hull, NIHR Respiratory Biomedical Research Unit, Royal Brompton & Harefield NHS Foundation Trust, London SW3 6HP, UK; j.hull@rbht.nhs.uk

Competing interests None.

Provenance and peer review Not commissioned; internally peer reviewed.



CrossMark

To cite Haji GS, Polkey MI, Hull JH. *Thorax* 2015;**70**:692.

Accepted 18 February 2015
Published Online First 4 May 2015



► <http://dx.doi.org/10.1136/thoraxjnl-2015-206888>
► <http://dx.doi.org/10.1136/thoraxjnl-2014-205940>

Thorax 2015;**70**:692.
doi:10.1136/thoraxjnl-2015-206953

REFERENCES

- 1 Baz M, Haji GS, Menzies-Gow A, *et al*. Dynamic laryngeal narrowing during exercise: a mechanism for generating intrinsic PEEP in COPD? *Thorax* 2015;**70**:251–7.
- 2 Leong P, Joosten S, Hamilton G, *et al*. Dynamic laryngeal narrowing in COPD may have effects on the trachea. *Thorax* 2015;**70**:693.
- 3 Low K, Lau K, Holmes P, *et al*. Abnormal vocal cord function in difficult-to-treat asthma. *Am J Respir Crit Care Med* 2011;**184**:50–6.
- 4 Wielputz MO, Eberhardt R, Puderbach M, *et al*. Simultaneous assessment of airway instability and respiratory dynamics with low-dose 4D-CT in chronic obstructive pulmonary disease: a technical note. *Respiration* 2014;**87**:294–300.
- 5 Boisselle PM, O'Donnell CR, Bankier AA, *et al*. Tracheal collapsibility in healthy volunteers during forced expiration: assessment with multidetector CT. *Radiology* 2009;**252**:255–62.
- 6 Patel MS, Mohan D, Anderson YM, *et al*. Phenotypic characteristics associated with reduced short physical performance battery. *Chest* 2014;**145**:1016–24.