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Determinants of reflux-induced chronic cough

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Abstract

Objective Gastro-oesophageal reflux is considered to be an important contributing factor in chronic unexplained cough. It remains unclear why some reflux episodes in the same patient causes cough while others do not. To understand more about the mechanism by which reflux induces cough, we aimed to identify factors which are important in triggering cough.

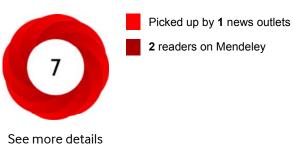
Design In this multicentre study, 49 patients with reflux-associated chronic cough were analysed using 24-hour pH-impedance-pressure monitoring. The characteristics of reflux episodes that were followed by cough were compared with reflux episodes not associated with cough.

Results The majority (72.4%) of the reflux episodes were acidic (pH<4). Compared with reflux episodes that were not followed by cough, reflux episodes that were followed by a cough burst were associated with a higher proximal extent (p=0.0001), a higher volume clearance time (p=0.002) and a higher acid burden in the preceding 15 min window (p=0.019) and higher reflux burden in the preceding 30 min window (p=0.044). No significant difference was found between the two groups when looking at the nadir pH, the pH drop, the acid clearance time or the percentage of reflux episodes which were acidic.

Conclusions The presence of a larger volume of refluxate and oesophageal exposure to reflux for a longer period of time seems to play an important role in inducing cough, while the acidity of the refluxate seems to be less relevant. This helps explain the observation that most patients with chronic cough tend not to benefit from acid inhibitory treatment.

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Contributors: TVKH designed the study, collected data, analysed and interpreted data, drafted the manuscript, and critically revised the article for important intellectual content; AJB and AJPMS designed the study, interpreted data and critically revised the manuscript for important intellectual content; AP and JJ collected data, interpreted data, and critically revised the article for important intellectual content. DS and JT interpreted data and critically revised the article for important intellectual content.

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