

Detection of pepsin as a marker of reflux in the coughed-up saliva samples of COPD patients.

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Objective:

Although not the causative factor reflux occurs concurrently in 50-60% of chronic obstructive pulmonary disease (COPD) patients (by 24hr pHmetry) and is very strongly linked to acute exacerbations as reflux was identified in 54% and linked to frequent reflux symptoms.

The aim of this cohort study was to objectively identify reflux in general COPD patient population by rapid detection of pepsin in expectorated saliva.

Method:

COPD patients were recruited from the Breathing Space clinic at Rotherham General Hospital. For inclusion into the study a HARQ (Hull airways reflux questionnaire) score ≥ 14 to indicate likely reflux aetiology was required. The RSI and GERDQ questionnaires were also completed. A single expectorated saliva sample was provided. The patient coughed-up and the resulting throat contents were spat into a collection tube at home at a convenient time. The sample was tested for the presence of pepsin using Peptest diagnostic test specific for human pepsin A (cut-off 16ng/ml).

Results:

12 COPD patients: Mean age 67 (SD 5.0) yrs; 7F 5M; Mean HARQ score 49.4 (range 30-67); Mean RSI 32.3; Mean GERDQ 8.3. 6 patients taking PPI and 4 using Gaviscon.

8/12 (66.7%) had detectable pepsin in the saliva sample with a median concentration of 77.5ng/ml (positive only - range 25-232ng/ml) but overall median concentration of 40.0 ng/ml. There was no significant correlation of pepsin concentration with questionnaire scores or anti-reflux medication use.

Conclusion:

67% of general COPD patients had evidence of recent reflux episodes by detection of pepsin as a marker of reflux. COPD patients warrant further investigation especially to ascertain the role of reflux in exacerbation of symptoms and understand the triggers for relapse of this serious condition.