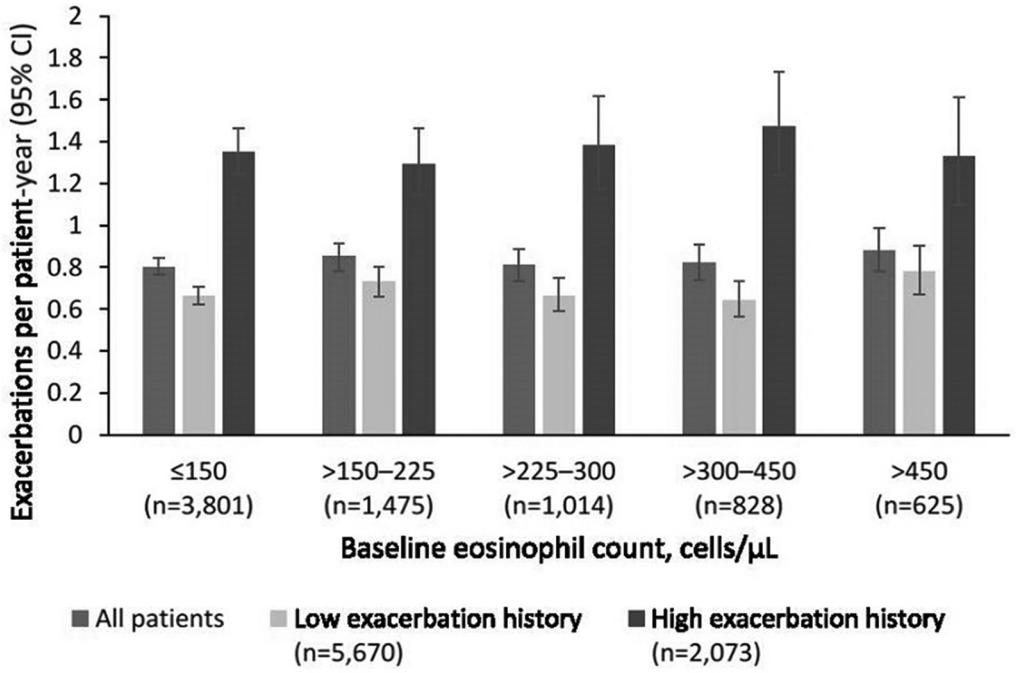

Low exacerbation history = 0 or 1 exacerbation treated with antibiotics or steroids in the previous year; high exacerbation history = ≥2 exacerbations treated with antibiotics or steroids in the previous year. There were no inclusion/exclusion criteria based on eosinophil count.
CI, confidence interval.

Abstract S102 Figure 1 Adjusted rate of moderate-to-severe exacerbations by baseline eosinophil count (tiotropium and tiotropium/olodaterol treatment arms pooled)

S103 USING SALIVARY PEPSIN AND THE REFLUX SYMPTOM INDEX AS OBJECTIVES MARKERS OF GASTRO-OESOPHAGEAL REFLUX TO PREDICT EXACERBATIONS OF COPD

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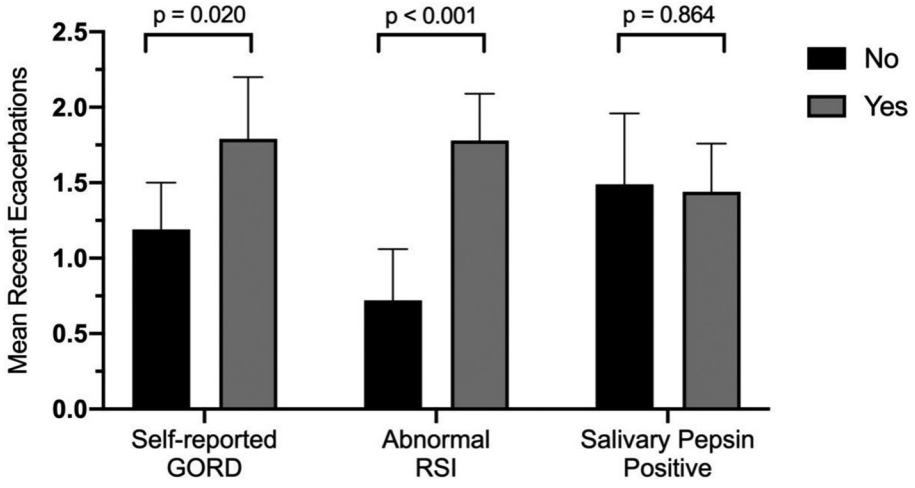
Introduction Self-reported gastro-oesophageal reflux disease (GORD) and associated laryngopharyngeal reflux (LPR) are common co-morbidities in patients with COPD and associated with an increased risk of exacerbations.[1 2] However, history of GORD or LPR are not routinely collected in these patients. Furthermore, silent reflux may predispose patients to exacerbations despite being asymptomatic.

We aimed to determine the prevalence of objectively assessed measures of GORD and LPR, using salivary pepsin (a non-invasive biomarker of GORD, including silent disease) and the Reflux Symptom Index (RSI) respectively, and whether these were associated with exacerbations of COPD.



Abstract S103 Figure 1 Number of exacerbations in the last three months in groups with and without self-reported GORD, abnormal RSI score (score >13) and salivary pepsin at baseline. Data shown are mean. Error bars are 95% CI. Comparison with independent t-test

Methods Patients were recruited to a prospective cohort study from a complex COPD clinic in a tertiary centre. At baseline, patients completed the RSI questionnaire and provided saliva samples to be tested for salivary pepsin (Peptest). Patient demographics and exacerbation history in the previous three months were also collected.

Results 96 patients were recruited (mean [SD] age 66.5 [9.1] yrs., FEV_1%predicted 42.2 [18.6]%, CAT score 21 [8]). Self-reported GORD was present in 43 (45%) patients, abnormal RSI in 67 (70%) patients and positive salivary pepsin in 59 (62%) patients. A greater proportion of patients had at least one exacerbation in the previous three months if they had an abnormal RSI (84% vs 48%, $p<0.001$) but not if they were positive for salivary pepsin (75% vs 70%, $p=0.644$). Mean number of exacerbations was significantly greater in groups with self-reported GORD and an abnormal RSI (Figure 1).

In a multivariate regression model, RSI was independently associated with an increased risk of having had an exacerbation in the last 3 months (OR: 5.01, $p=0.004$). No difference was seen with presence of salivary pepsin (OR:1.20, $p=0.739$) or self-reported GORD (OR: 2.39, $p=0.147$).

Conclusions Objectively measured GORD is common in patients with advanced COPD. Identification of LPR, using the RSI, is significantly associated with an increased risk of a previous exacerbation. Presence of salivary pepsin is not associated with increased risk of exacerbation. This observation needs to be validated for future exacerbation risk.

REFERENCES

1. Hurst, *et al*. NEJM 2010; **363**:1128–1138
2. Jung, *et al*. Int J COPD 2015; **10**: 1343–1351

S104 HOME BASED RESPIRATORY POINT OF CARE TESTING (R-POCTC) TO IMPROVE THE DIAGNOSIS AND MANAGEMENT OF COPD EXACERBATIONS IN THE COMMUNITY

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Introduction COPD exacerbations impose a major burden on patients and the NHS. They are often treated empirically with antibiotics and steroids, despite a large proportion being viral induced or non-infective.

We hypothesised that incorporation of R-POCTc within our integrated hospital at home service would improve quality of patient care by ensuring delivery of a more personalised management plan whereby treatment was guided by clinical testing.

Objectives To investigate whether Home R-POCTc for COPD facilitated:

1. Reduced antibiotic prescribing
2. Avoidance of hospital admission and ED attendance
3. Improved patient experience and quality of life (QOL).

Methods 42 patients underwent R-POCTc: CRP, procalcitonin (PCT) *(Finecare)* and a panel of 12 respiratory viruses and 4 atypical bacteria*(BioFire Film Array, Biomerieux Inc.)* were testedusing samples taken by nurses in patients' homes and then analyzed by them in a community hub.

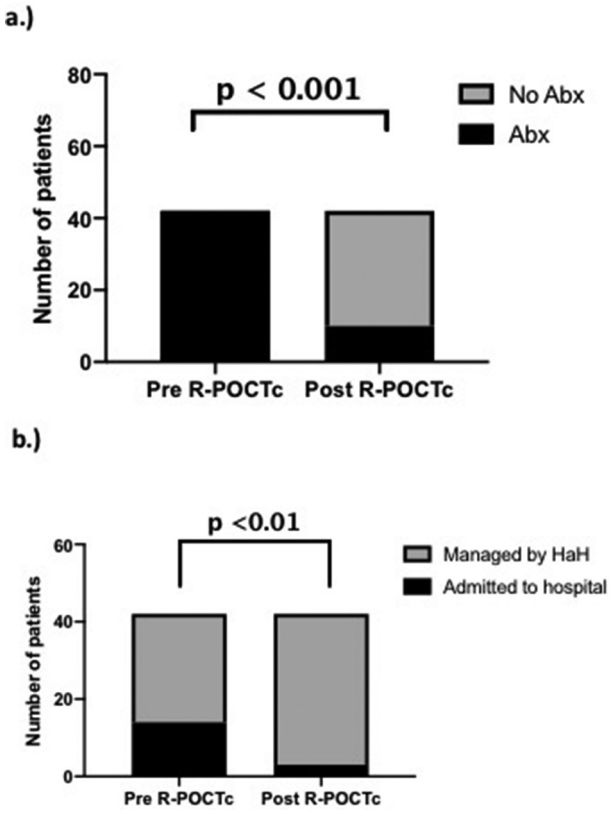
Outcomes in this patient cohort were compared before and after the implementation of R-POCTc. Patient reported experience measures (PREMs), health anxiety and QOL questionnaires were collected longitudinally.

Results Patients were COPD Gold stage C/D, MRC 3, mean FEV1 less than 50% with a mean of 4 exacerbations and 1 hospitalisation in the last year.

1. RPOCTc allowed antibiotics to be withheld in 32 patients who would have received this treatment at their previous exacerbation (figure 1a).
2. A significantly larger number of patients avoided hospital admission (figure 1b).
3. COPD assessment tool (CAT) scores showed that quality of life was significantly higher in the same group of patients after service implementation (mean difference -2.2, $p=0.002$).

Conclusion

- R-POCTc improves quality of care in severe COPD by delivering a safe, personalised approach, enhancing the patient experience and journey, by home testing and by reducing risks of inappropriate antibiotic prescribing, thereby **improving antimicrobial stewardship.**
- QOL was objectively better using R-POCTc. Patients found the **support and care provided at home (without recourse to hospital admission)** enhanced recovery from the exacerbation.
- Personalised decision-making gave **reassurance to patients and staff.**
- Patient involvement provided **empowerment, education and understanding about their condition.** This should help address the frequently high levels of anxiety within this group, which can precipitate exacerbations.



Abstract S104 Figure 1