

A Pilot Study to Investigate the Effect of Helicobacter Pylori Eradication Therapy in patients with COPD and Helicobacter Infection

A.A.Raj*, J de Caestecker ** and ID Pavord[#]

*Department of Gastroenterology, Pilgrim Hospital Boston, **Department of Gastroenterology, Leicester General Hospital, [#]Department of Respiratory Medicine, Churchill Hospital, Oxford.

Background: Epidemiological evidence supports an association between Helicobacter pylori infection and extra-digestive manifestations, with clinical improvement demonstrated in some conditions after helicobacter eradication therapy. We set out to investigate whether treating H. pylori infection in patients with COPD ameliorates lung function, symptoms or airway inflammation.

Methods: This was a randomised double-blind placebo-controlled pilot study aiming to recruit 20 COPD subjects with, and 20 without, Helicobacter pylori infection, determined by Urea Breath Test. Each group was randomised to either eradication therapy for 1 week, (Amoxicillin 1 g bd, Clarithromycin 500mg bd and Omeprazole 20mg bd), or treatment with the same antibiotics and placebo. Subjects were followed up for 24 weeks with visits at 6, 12 and 24 weeks post treatment. Spirometry, induced sputum and MRC Dyspnoea Scale, CRQ-SR, and VAS scores for cough, breathlessness and sputum production were performed at each visit.

Results: Helicobacter positive subjects randomised to eradication therapy showed greater than 10mm improvement in VAS scores for cough and sputum production [$F_{1, 31}=7.69$, $p<0.01$; $F_{1,31}=4.42$, $p=0.04$], but was not significant for breathlessness symptoms. There were no significant between group differences in induced sputum results.

Conclusions: We did not find any evidence of improved airway inflammation or spirometry resulting from helicobacter eradication therapy in patients with COPD and Helicobacter infection. However, we demonstrated a statistically significant improvement in symptom scores for both cough and sputum production in Helicobacter positive subjects randomised to eradication therapy. Our preliminary findings support the need for further larger scale studies to investigate the effect of actively seeking and treating Helicobacter infection in patients with COPD.