Conclusion In acute exacerbation of COPD there is no difference between 7-day and 14-day courses of treatment with oral prednisolone. The peak of FEV_1 and FVC in 7-day group on day-10 where corticosteroid was already stopped on day-7, (peak in 14-day group was on day-7) might be due to some other factor/factors responsible which would be cleared by further study.
Clinical implications There was no difference between 7-day and 14-day courses of prednisolone treatment, so, 7-day might be the shortest effective course of steroid treatment in acute exacerbation of COPD to avoid the burden of cost and side effects.

P259 EFFECTS OF METFORMIN ON CLINICAL OUTCOME IN PATIENTS HOSPITALISED FOR COPD EXACERBATIONS: A RETROSPECTIVE COHORT STUDY

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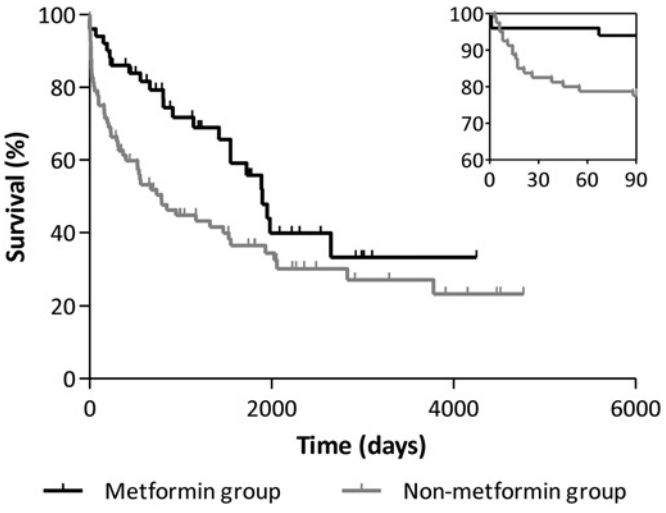
A W Hitchings, L Hayes, G Picton, L Turner, R Cull, S Aslam, J R H Archer, S A Srivastava, E H Baker. *St George's, University of London, London, UK*

Background Approximately 10% of patients with chronic obstructive pulmonary disease (COPD) have co-existing diabetes mellitus, conferring an adverse prognosis. Metformin is a valuable first-line treatment for diabetes. However, its rare association with lactic acidosis limits its use among patients at risk of hypoxia. This may deter some practitioners from prescribing it to patients with significant co-existing COPD. It is unknown whether the benefits of metformin outweigh its risks in this context. We therefore sought to determine the effects of metformin on survival and length of stay in a high-risk cohort of diabetic patients hospitalised for COPD exacerbations.
Methods The medical records of diabetic patients hospitalised for COPD were reviewed retrospectively. Length of hospital stay and all-cause mortality were compared according to the presence or absence of metformin therapy.
Results 130 patients were included, of whom 51 (39%) were prescribed metformin. Patients on metformin had a shorter hospital stay (median 7 vs 9 days respectively; p=0.004). Survival at 90 days was significantly better in the metformin group than in the non-metformin group (94% vs 78% respectively; p=0.015; Abstract P259 figure 1 inset). This persisted over the longer term, with overall median (95% CI) survival of 5.2 years (4.3 to 6.1) in the metformin group and 2.2 years (1.0 to 3.3) in the non-metformin group (HR 0.57; 95% CI 0.35 to 0.94; Abstract P259 figure 1). This difference remained significant in a multivariate model, adjusting for potential confounding effects of age, weight, acute illness severity (APACHE-II score) and comorbidity burden. Among patients prescribed metformin, vs those not, the median (IQR) plasma lactate concentration was 1.45 mmol/l (1.10–2.05) vs 1.10 mmol/l (0.80–1.50), respectively (p=0.012).
Conclusion Diabetic patients hospitalised for COPD exacerbations who were prescribed metformin were discharged earlier and survived longer than those not prescribed metformin. Lactate concentration was higher among patients on metformin, although the difference was small. Our results suggest that the drug's benefits may outweigh its rare association with lactic acidosis. Whether this reflects beneficial effects on diabetes- or COPD-related endpoints; other associated conditions; or the effect of unmeasured confounders, is unknown. We are now investigating this within the context of a randomised controlled trial (ISRCTN66148745).



Abstract P259 Figure 1 Kaplan–Meier curves for all-cause mortality, divided according to metformin use (p=0.024, log-rank test). Inset: survival curves at 90 days (p=0.015, log-rank test).

P260 ORAL NUTRITIONAL SUPPLEMENTS IN CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD): A SYSTEMATIC REVIEW AND META-ANALYSIS

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P F Collins, R J Stratton, M Elia. *Institute of Human Nutrition, School of Medicine, University of Southampton, Southampton, England*

Oral nutritional supplements (ONS) are often used to treat malnutrition in COPD, but the latest Cochrane review in COPD concluded that nutrition support, mainly involving ONS, did not improve anthropometry and other functional outcomes.[1] The latest NICE guidelines for the management of COPD recommend the use of ONS but state it is based on grade D evidence[2] despite previous reviews suggesting otherwise.[3] This review aimed to clarify the evidence base for ONS use in COPD. A systematic review identified 11 randomised controlled trials using ONS vs control (189 vs 185). Meta-analysis was performed of nutritional intake, weight, mid-arm muscle circumference (MAMC) and handgrip strength (HGS) (Comprehensive Meta-analysis v2). Quality of life, exercise capacity and respiratory outcomes were also examined. In contrast to previous Cochrane reviews, examining only data at the end of intervention,[1] this review examined the changes induced by ONS. Significantly improved energy intake was reported in six out of seven studies of which four were meta-analysable (+262 SE 104 kcal/d, p=0.012, random effect model, four RCT). Meta-analysis found ONS significantly improved body weight (+1.85 kg SE 0.25 kg, p<0.001 (malnourished) and +1.31 kg SE 0.34 kg, p<0.001 (nourished), 11 studies) and had a tendency to improve MAMC (+0.21 kg SE 0.19 kg, p=0.277, fixed effect model; I^2=0; 2 studies). Improved HGS was found in three of four studies, two significant in their own right with meta-analysis favouring ONS (+2.14 kg SE 1.1 kg, p=0.054, random effect model (+8.3% improvement)). No improvements were reported in FEV_1 (eight studies) however, respiratory muscle strength appeared more responsive to ONS with PI max improved in three out of five studies (NS), PE max significantly improved in two out of four studies and sternomastoid strength significantly improved in one study. Exercise tolerance (six out of seven studies), dyspnoea and general well-being (three out of five studies) and quality of life (two out of two studies) were significantly improved with ONS although meta-analysis of these outcomes was not possible. ONS result in significant improvements in nutritional intake and body weight and a tendency for improvements in several functional outcomes. This would support an increased level of evidence for ONS in the NICE COPD guidelines.