

# European Respiratory Society Annual Congress 2012

**Abstract Number:** 2542

**Publication Number:** P211

**Abstract Group:** 1.12. Clinical Problems - COPD

**Keyword 1:** COPD - management **Keyword 2:** Comorbidities **Keyword 3:** Systemic effect

**Title:** Clinical impact of anaemia in patients with chronic obstructive pulmonary disease: Results from ECLIPSE study

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**Body:** Anaemia is common in chronic diseases, associated with poor outcomes. In COPD, data on the effects of anaemia are scarce and inconclusive. We assessed the prevalence, incidence and clinical impact of anaemia in the ECLIPSE study, a large well characterised COPD cohort. **Methods.** We included patients with haemoglobin (Hb) value at baseline and at least one measurement during 3-years follow-up. Anaemia was defined as Hb <13g/L in men and <12 g/L in women. **Results.** In 2097 COPD patients (63±7years, 65% men, postbronchodilator FEV1 48±16%) anaemia was recorded at baseline in 123 patients (6%, Hb 120.9±49.9 g/dl), who were older (67±7 vs 63±7 years, p<0.001), and had greater functional limitation as assessed by 6-minute walking distance, mMRC dyspnoea score, SGRQ and BODE index (p<0.05), than those without anaemia. They had greater cardiovascular, diabetes, peptic ulcer comorbidities (p<0.05) and had higher systemic levels of inflammatory markers (p<0.01). During follow-up, more patients with anaemia died (24% vs 9%, p<0.001), with no significant differences in FEV1 decline, exacerbation rates or hospitalizations compared to those without anaemia. New onset anaemia developed in 285/1974 (14%) of patients during follow up. These patients had a similar pattern of functional limitation, comorbidity and systemic inflammation as patients with anaemia at baseline, but had higher exacerbation rates and hospitalizations (p<0.05), but a similar proportion of deaths (9%). **Conclusions.** In the ECLIPSE COPD cohort, anaemia was present or developed in 19% of patients and was associated with functional limitations and poor outcomes. Supported by GlaxoSmithKline (SCO104960, NCT00292552).