Abstract P140 Table 1

	Asthma (n = 394,160)	COPD (n = 77,749)	Asthma and COPD (n = 23,345)
Mean age, year (SD)	28.9 (24.7)	72.8 (9.8)	71.7 (10.9)
Male	50.6%	47.5%	38.5%
Severity			
Mild/moderate/severe/very severe	61.4%/34.9%/3.6%/0%	42.8%/38.8%/16.0%/2.4%	23.0%/44.3%/27.7%/5.0%
Mean Charlson Comorbidity index (SD)	1.3 (1.1)	3.0 (2.2)	2.9 (2.2)
Treatments (used by ≥20% patients in any group)			
Short-acting beta-agonists	69.8%	45.1%	61.6%
LABA	8.9%	16.5%	20.2%
Long-acting muscarinic-antagonist	2.2%	71.6%	50.7%
ICS	53.5%	16.5%	27.6%
Fixed ICS/LABA combinations	34.9%	57.5%	68.3%
Antibiotics	13.8%	33.3%	37.0%
Oral steroids	20.9%	32.4%	43.1%
Comorbidities that can affect inhaler handling (observed in ≥10% patients in any group)			
Any	15.8%	50.4%	55.3%
Heart failure	2.0%	21.8%	22.9%
Stroke	1.6%	10.8%	9.7%
Sleep disorders	3.8%	7.2%	10.5%
Depression or anxiety	8.1%	14.4%	17.7%
Osteoporosis	1.2%	7.7%	10.2%

COPD, chronic obstructive pulmonary disease; ICS, inhaled corticosteroids; LABA, long-acting beta-agonists; SD, standard deviation.

P141 2-YEAR FOLLOW-UP OF COPD PATIENTS IN THE NON-INTERVENTIONAL 'REAL-LIFE' DACCORD STUDY IN GERMANY

¹H Worth, ²R Buhl, ³CP Criée, ⁴P Kardos, ⁵C Mailänder, ⁵N Lossi, ⁶C Vogelmeier. ¹Facharztforum Fürth, Fürth, Germany; ²Pulmonary Department, Mainz University Hospital, Mainz, Germany; ³Department of Sleep and Respiratory Medicine, Evangelical Hospital Goettingen-Weende, Bovenden, Germany; ⁴Group Practice and Centre for Allergy, Respiratory and Sleep Medicine, Red Cross Mainau Hospital, Frankfurt, Germany; ⁵Novartis Pharma GmbH, Nürnberg, Germany; ⁶Department of Medicine, Pulmonary and Critical Care Medicine, University Medical Centre Giessen and Marburg, Philipps-University Marburg, Member of the German Centre for Lung Research (DZL), Marburg, Germany

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Introduction Although randomised, controlled trials are important in the development of new pharmacological treatments, they provide limited information on the 'real life' management of chronic diseases. Here, we analysed two-year follow-up data from the prospective, non-interventional, observational DACCORD study to evaluate the frequency of exacerbations and the evolution of disease severity using GOLD 2011 categorization.

Methods COPD out-patients were recruited into DACCORD following either a change or initiation of COPD maintenance medication and followed up for 2 years. Data of 3137 patients that completed the 2-year follow-up were analysed; Exacerbation data were collected from the 6 months prior to study entry (baseline), and every 3 months for 2 years after entry; COPD symptoms were evaluated using the COPD Assessment Test (CAT) at baseline as well as the 1 year and 2 year visit.

Results In this cohort the non-exacerbating phenotype was stable with a total of 69.4% of patients without exacerbations in the 6 months prior to baseline not reporting any exacerbation over the full 2 year follow-up period resulting in an annual exacerbation rate of 0.263 in year 1 and 0.251 in year 2. In contrast, patients with at least one exacerbations in the 6 months prior to baseline showed an annual exacerbation rate of 0.770 in year 1 and 0.633 in year 2. At baseline 44.6% of patients were categorised as GOLD D, one third of these due to their exacerbation history alone. In Year 1 there was a general shift to lower risk categories compared to baseline (GOLD D: 44.6% vs. 31.1%) mainly due to a lower number of exacerbations in Year 1. Overall, categorization then remained relatively stable from Year 1 (GOLD D = 31.1%) to Year 2 (GOLD D = 32.1%).

Conclusions Although, COPD is generally considered to be a progressive disease, this analysis of 'real life' data over an observational period of 2 years shows that the 'non-*exacerbating' phenotype is relatively stable. The data furthermore confirms that exacerbations in the recent history increase the risk of future exacerbations.

P142 THE DISTRIBUTION OF BLOOD EOSINOPHIL COUNT IN A COPD CLINICAL TRIALS DATABASE: COMPARING THE UK WITH THE REST OF THE WORLD

¹E Hilton, ¹C Compton, ¹D Midwinter, ^{1,2}N Barnes. ¹GlaxoSmithKline, Brentford, UK; ²William Harvey Institute Barts and the London School of Medicine, UK

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Introduction There is accumulating evidence that blood eosinophil count may have predictive value for those individuals with COPD who are more likely to respond to an inhaled corticosteroid in terms of exacerbation reduction and there is evidence that higher blood eosinophil count can also have some predictive value for those at risk of exacerbations. Blood eosinophil counts are known to be raised in a number of conditions including allergies and parasitic or fungal infections. It is therefore possible that the blood eosinophil count would vary between countries and thus influence their predictive value. We have investigated the distribution of blood eosinophil counts in the UK in comparison with blood eosinophil counts worldwide from data in the GSK clinical trials database.

Methods In this post-hoc analysis, the following criteria were used to select studies for consistency with analyses conducted to examine the effects of inhaled corticosteroids on outcomes: global, randomised, double-blind, parallel-group clinical trials in COPD of at least 24 weeks' duration that included any of fluticasone propionate (FP), fluticasone furoate (FF), salmeterol/FP or FF/vilanterol (VI) as a randomised study drug and a non-steroid-containing arm and for which subjects had a pre-randomisation blood sample taken for eosinophils.^{1,2} Individual subjects' pre-randomisation eosinophil counts from countries that recruited at least 100 subjects across all trials were pooled to form the global sample (Argentina, Australia, Canada, Chile, Czech Republic, Denmark, Estonia, France, Germany, Greece, Italy, Korea, Lithuania, Mexico, Netherlands, Norway, Peru, Philippines, Poland, Romania, Russia, Slovakia, South Africa, Spain, Sweden, United Kingdom, United States). Individual subjects' pre-randomisation eosinophil counts for subjects in the UK were pooled to form the UK sample. An empirical cumulative distribution function (CDF) for the UK sample was overlaid on an empirical CDF plot for the global sample.

Abstract P142 Figure 1 Blood eosinophil count in COPD patients in the UK and Worldwide

Results The blood eosinophil count in COPD patients included in these trials in the UK is very similar to that worldwide (Figure).

Conclusions This suggests that blood eosinophil count could be used in the UK to help predict response to inhaled corticosteroids in COPD.

REFERENCES

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- 2 Pascoe. *Lancet Respir Med* 2015.

Study or Subgroup	Eosinophilic			Non-eosinophilic			Weight	Mean Difference		Year	Mean Difference	
	Mean [Days]	SD [Days]	Total	Mean [Days]	SD [Days]	Total		IV, Random, 95% CI [Days]	Year		IV, Random, 95% CI [Days]	
Serafino-Agrusa (2015)	8.9	1.5	20	11.3	1.5	112	17.5%	-2.40 [-3.11, -1.69]	2014			
Hasegawa (2015)	2	0.5	513	2	0.667	2571	37.7%	0.00 [-0.05, 0.05]	2014			
Duman (2015)	6.6	0.5667	351	7	0.583	1353	37.5%	-0.40 [-0.47, -0.33]	2014			
Bafadhel (2016)	5	4.5	62	6.5	5.33	181	7.2%	-1.50 [-2.86, -0.14]	2015			
Total (95% CI)			946			4217	100.0%	-0.68 [-1.09, -0.27]				
Heterogeneity: Tau ² = 0.11; Chi ² = 129.60, df = 3 (P < 0.00001); I ² = 98%												
Test for overall effect: Z = 3.27 (P = 0.001)												

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BLOOD EOSINOPHILIA AS PREDICTOR FOR PATIENT OUTCOMES IN COPD EXACERBATIONS: A SYSTEMATIC REVIEW AND META-ANALYSIS

RE Villalobos, J Magallanes, A David-Wang. *University of the Philippines-Philippine General Hospital, Manila, Philippines*

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Background and significance COPD exacerbations are associated with significant morbidity, mortality, and substantial healthcare cost. The eosinophilic phenotype of COPD has been demonstrated to respond better to corticosteroids thus providing better clinical outcomes. This review aims to elucidate further the correlation between blood eosinophilia and outcomes in hospitalised patients with COPD exacerbations.

Methods We systematically searched published and unpublished literature for potential studies that fulfilled our eligibility criteria. Inclusion criteria include any cohort (prospective or retrospective), case-control or randomised trials that looked into the association of blood eosinophilia and outcomes in hospitalised COPD exacerbation patients. The primary study outcome was length of hospitalisation; other outcomes include readmission and mortality rate within 1 year, in-patient mortality, and need for mechanical ventilation. An extensive eligibility, methodological and risk of bias assessments were performed independently by two authors adhering to the MOOSE and Cochrane standards.

Results Six studies, with a total of 7293 patients, were included in the review. Five are retrospective cohorts and one is a retrospective analysis of a subgroup of a randomised trial. Patients with blood eosinophilia had significantly shorter hospital stay compared to non-eosinophilic patients (mean difference 0.68 days [95% CI: 1.09, 0.27]). Eosinophilic patients had significantly less frequent readmissions (odds ratio/OR 0.69 [95% CI: 0.55, 0.87]) but there was no statistically significant difference in the 1-year mortality rate (OR 0.88 [95% CI: 0.73, 1.06]). Analysis showed a trend toward lower in-patient mortality among eosinophilic patients, although this difference is not statistically significant (OR 0.53 [95% CI: 0.27, 1.05]). Furthermore, COPD patients with eosinophilia had significantly less need for mechanical ventilation during an exacerbation (OR 0.56 [95% CI: 0.35, 0.89]). Only the primary outcome was significantly heterogeneous.

Conclusions COPD patients with blood eosinophilia had significantly shorter hospital stay, less frequent readmissions, and are less likely to require mechanical ventilation compared to the non-eosinophilic phenotype.