Abstract S25 Table 1 Preliminary CPET data for patients with persistent symptoms following non-hospitalised SARS-CoV2 infection, demonstrating reduced levels of aerobic fitness compared to % predicted, as assessed by oxygen uptake at peak exercise, oxygen uptake at anaerobic threshold (AT) and O₂ pulse.

Patient number	Peak oxygen uptake as% predicted	Peak AT as% of peak oxygen uptake	O ₂ pulse as% predicted	VEVCO ₂ slope	Breathing reserve (litres/minute)
1	110	69	101	26.9	59
2	70	31	76	22.6	138
3	91	45	80	31.4	36
4	108	63	93	28.1	84
5	81	46	78	27.7	31
6	81	44	82	26.4	71
7	111	47	106	25.4	69
8	61	33	70	27.5	96
9	64	43	78	29.6	40

after CPET, all of which demonstrated normal biventricular function.

Conclusions CPET provided an objective measure of functional limitation in our preliminary patient cohort, profound deconditioning was apparent. Given that our patient has normal cardiac function, it is possible that the reduction in O₂ pulse reflects an intrinsic impairment in muscle oxygen utilisation. We have demonstrated similar patterns of exercise limitation in cancer patients undergoing chemotherapy, and subsequent improvements in their exercise training capacity following a 12 week personalised exercise training program.¹ Exercise intervention studies are needed in these patients to determine optimal rehabilitation strategies.

REFERENCE

1. West, et al. *Br J Anaesth*. 2015;**114**(2):244–5.

COPD exacerbations: prevention, treatment, recovery

S26

EFFECT OF SINGLE-INHALER EXTRA-FINE BECLOMETASONE/FORMOTEROL/GLYCOPYRROLONIUM PMDI (BDP/FF/GB) COMPARED WITH TWO-INHALER FLUTICASONE FUROATE/VILANTEROL DPI + TIOTROPIUM DPI (FLF/VIL+TIO) TRIPLE THERAPY ON HEALTH-RELATED QUALITY OF LIFE (HRQOL) IN PATIENTS WITH COPD: THE TRISTAR STUDY

¹M Kots, ²G Georges, ¹A Guasconi, ³C Vogelmeier. ¹Chiesi Farmaceutici S.p.A., Parma, Italy; ²Chiesi USA, Cary (NC), USA; ³Klinik für Pneumologie, Marburg, Germany

10.1136/thorax-2021-BTSabstracts.32

Rationale To evaluate the effect of single-inhaler extrafine BDP/FF/GB pMDI vs two-inhaler (FLF/VIL+TIO) triple therapies on HRQoL in patients with COPD to support market access dossiers in Europe.

Methods In this phase III, multicenter, randomized study patients received BDP/FF/GB 100/6/12.5 µg extrafine pMDI 2 inhalations BID or FLF/VIL 100/25 µg 1 inhalation QD + TIO 18 µg/d 1 inhalation QD for 26 weeks. The primary efficacy variable was the change from baseline in the St. George

Respiratory Questionnaire (SGRQ) total score at Wk 26 in the intent-to-treat (ITT) and per-protocol (PP) populations, with non-inferiority defined as an upper confidence limit of the adjusted mean difference between treatments <4 units. Secondary endpoints included SGRQ response (defined as a decrease of ≥4 units in total score), change in pre-dose FEV₁ at Wk 26, and rate of moderate-to-severe COPD exacerbations over 26 weeks.

Results A total of 1157 patients were randomized (1095 completed), of whom 53.5% were <65 years of age, 75.5% males, 54.4% current smokers and 84.1% had 1 exacerbation in the past year. Baseline SGRQ total score was 52.8. In both groups the adjusted mean change from baseline in the SGRQ total score significantly decreased at Wk 26, with -6.77 for BDP/FF/GB and -7.82 for FLF/VIL+TIO in the ITT population. Non-inferiority was demonstrated in both ITT and PP populations, with an upper confidence interval of the adjusted mean difference below 4. SGRQ response rates at Week 26 were similar (51.1% and 53.0%) and pre-dose FEV₁ mean changes from baseline were 59 and 105 mL (p<0.001). Adjusted rate ratio was 1.086 (p=0.525) for moderate-to-severe exacerbations and 0.568 for severe exacerbations (p=0.068). Serious TEAEs occurred in 39 (6.7%) and 56 (9.7%) in each group, respectively.

Conclusion Treatment with BDP/FF/GB extrafine pMDI for 26 weeks significantly improved HRQoL as measured by the SGRQ and was non-inferior compared to FLF/VIL+TIO. Lung function improved with both treatments but more so with FLF/VIL+TIO whereas a larger reduction in severe exacerbations occurred with extrafine BDP/FF/GB. Both treatments were safe and well tolerated.

Please refer to page A188 for declarations of interest related to this abstract.

S27

ARE PATIENTS WITH COPD MORE ADHERENT TO FLUTICASONE FUROATE/UMECLIDINIUM/VILANTEROL (FF/UMEC/VI) COMPARED WITH MULTIPLE-INHALER TRIPLE THERAPY IN A REAL-WORLD UK PRIMARY CARE TREATED POPULATION?

¹DMG Halpin, ²KJ Rothnie, ³V Banks, ²A Czira, ²C Compton, ³R Wood, ³T Tritton, ³O Massey, ³R Wild, ⁴N Snowise, ²E Gubba, ²R Sharma, ⁵AS Ismaila, ⁶CF Vogelmeier. ¹University of Exeter Medical School, Exeter, UK; ²GlaxoSmithKline Plc, London, UK; ³Adelphi Real World, Bollington, UK; ⁴Kings College, London, UK; ⁵GlaxoSmithKline Plc, Collegeville, USA; ⁶University Medical Center Giessen and Marburg, Marburg, Germany

10.1136/thorax-2021-BTSabstracts.33

Background and Objectives Triple therapy with inhaled corticosteroid, long-acting muscarinic antagonist and long-acting β₂-agonist (ICS/LAMA/LABA) is recommended for patients with COPD who continue to experience exacerbations on dual therapy (LAMA/LABA or ICS/LABA). Adherence to multiple-inhaler triple therapy (MITT) has previously been shown to be inadequate. Single-inhaler triple therapy, such as fluticasone furoate/umeclidinium/vilanterol (FF/UMEC/VI), may improve adherence due to decreased treatment complexity. This study investigates the real-world comparative adherence to FF/UMEC/VI vs any MITT combination in UK patients with COPD.

Methods This retrospective analysis of linked UK primary and secondary care data (Clinical Practice Research Datalink [CPRD] Aurum; Hospital Episode Statistics [HES]) indexed patients with COPD on the first prescription of FF/UMEC/VI or MITT between November 2017 and June 2019. Inclusion

criteria were age ≥ 35 years, COPD diagnosis, forced expiratory volume in 1 second/forced vital capacity (FEV₁/FVC) < 0.7 , linkage to HES, and continuous GP registration for 12 months pre-index and 6 months post-index. Patients were new users of MITT or FF/UMEC/VI at index. Inverse probability of treatment weighting (IPTW) was used to balance baseline characteristics including sociodemographics, FEV₁% predicted, symptom scores, prior exacerbations, prior respiratory therapy and comorbidities. Adherence was measured using proportion of days covered (PDC) by days' supply of FF/UMEC/VI or MITT prescriptions over 6, 12, and 18 months post-index. PDC calculations did not include potential stockpiling and MITT patients were required to have supply of all components for days to be considered covered. Analyses included both proportion of adherent patients (PDC ≥ 0.80) and mean PDC.

Results In total, 1,319 FF/UMEC/VI and 4,092 MITT users met the inclusion criteria. IPTW provided good balance of baseline characteristics demonstrated by standardised mean difference $< 10\%$ for all covariates. Patients with COPD initiating FF/UMEC/VI had significantly higher adherence than MITT

users over 6, 12 and 18 months, using both categorical (PDC ≥ 0.80) and continuous (mean PDC) adherence measures (Results presented in table 1); $p \leq 0.001$ for all comparisons.

Conclusion In the UK, patients with COPD initiating FF/UMEC/VI have significantly better adherence compared with patients initiating MITT.

S28 HOME HUMIDIFIED HIGH-FLOW THERAPY FOLLOWING SEVERE EXACERBATION OF COPD: A MIXED-METHODS FEASIBILITY RANDOMISED CONTROL TRIAL

¹RF D'Cruz, ¹A Rossel, ¹ES Suh, ¹G Kaltsakas, ¹NM Shah, ²A Douiri, ³L Rose, ¹PB Murphy, ¹N Hart. ¹Lane Fox Clinical Respiratory Physiology Research Unit, Guy's and St Thomas' NHS Foundation Trust, London, UK; ²School of Population Health and Environmental Sciences, King's College London, London, UK; ³Florence Nightingale Faculty of Nursing, Midwifery and Palliative Care, King's College London, London, UK

10.1136/thorax-2021-BTSabstracts.34

Introduction Patients recovering from severe acute exacerbations of COPD (AECOPD) have a 30-day readmission rate of

Abstract S28 Figure 1 Patient flow diagram