Background and Aims

Previous real-world studies have demonstrated increased adherence when switching patients with chronic obstructive pulmonary disease (COPD) from multiple-inhaled triple therapy (MITT) to single-inhaler triple therapy (SITT)\(^1\). Compared with MITT, SITT with fluticasone furoate/umeclidinium/vilanterol (FF/UMEC/VI) has also been shown to improve lung function and result in more patients gaining clinically meaningful improvements in COPD.

Methods

Retrospective cohort study using linked primary care electronic health record data and secondary care administrative data through the Clinical Practice Research Datasets Aurum database and Hospital Episode Statistics (HES) admitted Patient Care and Accident and Emergency datasets, respectively.

Results

In total, 2675 patients were included in the study cohort (1352 with no AECOPD prior AECOPD: n=1202. §Overall cohort: n=2672; no prior AECOPD: n=1350; prior AECOPD: n=1322. AECOPD, acute exacerbations of COPD; FEV\(_1\), forced expiratory volume in 1 second; FVC, forced vital capacity; GOLD, Global Initiative for Chronic Obstructive Lung Disease; SD, standard deviation.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Overall (N=2675)</th>
<th>No prior AECOPD (N=1352)</th>
<th>Prior AECOPD (N=1323)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age at index date, years, mean (SD)</td>
<td>71.1 (9.8)</td>
<td>70.9 (9.6)</td>
<td>71.3 (10.1)</td>
</tr>
<tr>
<td>Female, n (%)</td>
<td>1279 (47.8)</td>
<td>604 (44.7)</td>
<td>675 (51.0)</td>
</tr>
<tr>
<td>FEV(_1)FVC ratio(^*), mean (SD)</td>
<td>55.6 (15.1)</td>
<td>56.6 (15.2)</td>
<td>54.6 (16.1)</td>
</tr>
<tr>
<td>FEV(_1)% predicted, mean (SD)</td>
<td>56.3 (19.7)</td>
<td>57.2 (19.6)</td>
<td>53.3 (19.6)</td>
</tr>
<tr>
<td>Smoking status, n (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never smoker</td>
<td>1168 (43.7)</td>
<td>607 (45.0)</td>
<td>561 (42.5)</td>
</tr>
<tr>
<td>Former smoker</td>
<td>920 (34.4)</td>
<td>455 (33.8)</td>
<td>465 (35.2)</td>
</tr>
<tr>
<td>Current smoker</td>
<td>557 (20.9)</td>
<td>290 (22.2)</td>
<td>267 (20.3)</td>
</tr>
<tr>
<td>Current asthma diagnosis, n (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No asthma</td>
<td>2007 (75.5)</td>
<td>1032 (76.8)</td>
<td>975 (73.8)</td>
</tr>
<tr>
<td>Asthma</td>
<td>668 (24.5)</td>
<td>320 (23.2)</td>
<td>348 (26.2)</td>
</tr>
</tbody>
</table>

Table 1. Baseline characteristics

Conclusions

• Patients with COPD who switched from MITT to once-daily SITT with FF/UMEC/VI in a real-world primary care setting demonstrated significantly fewer moderate and severe exacerbations in the 6 months following the switch (compared with the 6 months prior to switching).

• This finding builds on the INTREPID trial, which demonstrated significant improvements in health status and lung function in patients using SITT with FF/UMEC/VI vs MITT in routine clinical practice\(^2\).

• The long-term benefits of switching patients from MITT to SITT require further investigation.

References


Pre-switch (MITT) Post-switch better

Pre-switch better Post-switch

Figure 2

Figure 3

Figure 4

Figure 5

Figure 6

Figure 7

Reduced exacerbations following switch from multiple-inhaler to once-daily single-inhaler triple therapy in COPD patients in a real-world primary care setting in England

Poster No. PA2109

Methods

Retrospective cohort study using linked primary care electronic health record data and secondary care administrative data through the Clinical Practice Research Datasets Aurum database and Hospital Episode Statistics (HES) admitted Patient Care and Accident and Emergency datasets, respectively. This was a comparative study with paired bivariate comparisons of AECOPDs.

Figure 1. Study design

Study period

19 Nov 2016

31 Mar 2020

Indexing period

15 Nov 2016

30 Sep 2019

Index date: First/earliest initiation of a single inhaler FF/UMEC/VI prescription immediately following a period of MITT use within indexing period

Baseline (12 months) Variable follow-up (6 months minimum)

MITT use

6-month outcomes assessed and stratified by prior AECOPD status

- Proportion of patients with AECOPD

- Rate of AECOPD

MITT is defined as the number of monthly supply of all three components of the triple combination product: tiotropium, vilanterol and fluticasone propionate. Single-inhaler FF/UMEC/VI is defined as a proportion of FF/UMEC/VI following MITT use.

Disclosures

The authors are funded by GSK (study ID 218242). On behalf of all authors, an audio recording was prepared by KWR, who did not receive any payment for this recording. The authors declare the following real or perceived conflicts of interest during the last 3 years in relation to this study: AECOPD, acute exacerbations of COPD; FF, fluticasone furoate; LAMA, long-acting muscarinic antagonist; LABA, long-acting β2-agonist; SABA, short-acting β2-agonist; SAMA, short-acting muscarinic antagonist.

Prepared for the ERS International Congress, Barcelona, Spain, 4–6 September 2022

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1Value Evidence and Outcomes, R&D Global Medical, GSK, Brentford, UK; Real-World Evidence, Astellas Real World, Brentford, UK; Global Medical, GSK, Brentford, UK; Value Evidence and Outcomes, R&D Global Medical, GSK, Collegien, PA, USA; Department of Health Research Methods, Evidence and Impact, McMaster University, Hamilton, ON, Canada

Real-World received funds from GSK to conduct the analysis. UAB was an employee of Astellas Real World at the time of study.

AECOPD is defined as the number of monthly supply of all three components of the triple combination product: tiotropium, vilanterol and fluticasone propionate. Single-inhaler FF/UMEC/VI is defined as a proportion of FF/UMEC/VI following MITT use.

Figure 2. Any use of COPD-related medications during baseline

Figure 3. Proportion of patients with 21 AECOPDs by severity pre- and post-switch

Figure 4. Rate ratio of AECOPD in the 6 months pre- and post-switch to SITT

Figure 5. Rate ratio of AECOPD among patients with prior AECOPD in the 6 months pre- and post-switch to SITT

Figure 6. Rate ratio of AECOPD among patients with no prior AECOPD in the 6 months pre- and post-switch to SITT

*Data on file. **Funding data provided by GSK in support of the form of setting existence. Including development of the initial draft based on author direction, assembling tables and figures, coding author comments, grammatical editing and referencing) was provided by Kathryn Wardle of Aura, a division of Spirit Medical Communications Ltd, and was funded by GSK.

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