Background

● Study design

The original and most widely adopted definition of the CID composite endpoint of exacerbations, hospitalisations and death is a post-albuterol FEV1 ≤ 80% predicted, and a post-albuterol decrease in FEV1 ≥ 20% from baseline.1-3 These findings provide additional evidence to support the early intensification of bronchodilator therapy in symptomatic low-risk patients with COPD to prevent short-term worsening, which indicates potential treatment failure.

Endpoints and statistical analyses

● The probability of a short-term CID was high for all treatments (46%–73%).

● The probability of a short-term CID was lower for COPD patients receiving UMEC/VI compared with UMEC and SAL for all CID definitions (Figure 2).

● In prospective analyses, UMEC/VI significantly reduced the risk of a first CID versus UMEC (16%–25%; P<0.001) and SAL (26%–41%; P<0.001) (Figure 3).

● UMEC/VI consistently provided increased protection from this short-term worsening versus UMEC and SAL.

● These findings provide additional evidence to support the early intensification of bronchodilator therapy in symptomatic low-risk patients with COPD to prevent short-term worsening, which indicates potential treatment failure.

Methods

● This analysis was funded by GSK (study 201749; NCT03034915).

● Previous studies have shown that 95% of patients receiving monotherapies bronchodilator therapy (with or without inhaled corticosteroids) [ICS] experienced short-term worsening as measured by the clinically important deterioration (CID) composite endpoint; however, early optimisation of ICS and bronchodilator maintenance therapy reduces this risk.1,7

● Many patients with chronic obstructive pulmonary disease (COPD) on long-acting muscarinic antagonist (LAMA) or long-acting β2-agonist (LABA) monotherapy continue to experience significant exacerbations.1-3

● Previous studies have shown that ≥50% of patients receiving mono-bronchodilator therapy versus placebo for 1 year have experienced a first exacerbation.2-7

● The probability of an exacerbation event was low across all treatments (13%–17%), whereas the probabilities of other types of CID events were higher (UMEC/VI ≤ 22%–36% and SAL ≤ 35%–47%) (Figure 3).

● UMEC/VI significantly reduced the risk of all individual CID component events versus SAL (P<0.01) and, the FEV1 and TDI component definitions (UMECA* P<0.01 and Tukey HSD test vs UMEC and SAL) (Figure 3).

● These findings provide additional evidence to support the early intensification of bronchodilator therapy in symptomatic low-risk patients with COPD to prevent short-term worsening, which indicates potential treatment failure.