

# A Systematic Review With Meta-Analysis of Dual Bronchodilation With LAMA/LABA for the Treatment of Stable COPD

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**BACKGROUND:** The wide availability of long-acting muscarinic antagonist (LAMA)/longacting b<sub>2</sub>-agonist (LABA) fixed-dose combinations (FDCs) in the absence of head-to-head comparative pragmatic trials makes it difficult to choose which combination should be used. Therefore, we carried out a systematic review with meta-analysis that incorporated the data from trials lasting at least 3 months to evaluate the effectiveness of LAMA/LABA FDCs for COPD treatment.

**METHODS:** Randomized controlled trials were identified by searching different databases of published and unpublished trials. We aimed to assess the influence of LAMA/LABA combinations on trough FEV<sub>1</sub>, transitional dyspnea index, St. George's Respiratory Questionnaire, and cardiac safety vs monocomponents.

**RESULTS:** Fourteen papers and one congress abstract with 23,168 patients with COPD (combinations, n = 10,328; monocomponents, n = 12,840) were included in this study. Our results showed that all LAMA/LABA combinations were always more effective than the LAMA or LABA alone in terms of the improvement in trough FEV<sub>1</sub>. Although there was not significant difference among LAMA/LABA combinations, we identified a gradient of effectiveness among the currently available LAMA/LABA FDCs. LAMA/LABA combinations also improved both transitional dyspnea index and St. George's Respiratory Questionnaire scores, but did not increase the cardiovascular risk when compared with monocomponents.

**CONCLUSIONS:** The gradient of effectiveness emerging from this meta-analysis is merely a weak indicator of possible differences between the various LAMA/LABA FDCs. Only direct comparisons will document if a specific LAMA/LABA FDC is better than the other. In the meanwhile, we believe it is only proper to consider that dual bronchodilation is better than a LAMA or a LABA alone, regardless of the drugs used.