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Title **Long-Acting Beta2-Agonist and Inhaled Corticosteroid Combination Therapy for Adult Persistent Asthma: Systematic Review of Clinical Outcomes and Economic Evaluation**

Agency **CADTH, Canadian Agency for Drugs and Technologies in Health**
Suite 600, 865 Carling Ave, Ottawa, Ontario K1S 5S8 Canada;
Tel: +1 613 226 2553, Fax: +1 613 226 5392; publications@cadth.ca, www.cadth.ca

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Aim

To evaluate the clinical efficacy, safety, and cost effectiveness of long-acting beta2-agonist and inhaled corticosteroid (LABA-ICS) combination therapy for adults (12 years of age or older) diagnosed with persistent asthma.

Conclusions and results

For most patients with persistent asthma, the initial and only therapy needed is inhaled corticosteroid (ICS). The clinical review found statistically important, but not clinically meaningful, benefits from switching to combination therapy in managing most asthma not controlled by ICS. A primary economic analysis from a Canadian perspective found that the later a long-acting beta2-agonist (LABA) is introduced into therapy, the more cost effective the treatment strategy becomes. The analysis suggests that introducing LABA before patients have tried high-dose ICS therapy is not justified.

Recommendations

Not applicable.

Methods

Clinical and economic analyses were conducted. For the clinical analysis, RCTs comparing LABA-ICS with ICS monotherapy or another LABA-ICS combination therapy for managing persistent adult asthma were identified, and meta-analyses were performed when appropriate. For the economic analysis, we conducted a systematic review of economic evaluations comparing the use of LABA-ICS combination therapy with ICS monotherapy in patients (12 years of age or older) with asthma. A Markov model was created to estimate the long-term costs and quality-adjusted life-years (QALYs) associated with four strategies relating to the optimum time to introduce LABA: in combination with ICS as initial therapy; after lack of control on low-dose ICS; after lack of control on medium-dose ICS; or after lack of control on high-dose IC.

Further research/reviews required

More comparative research seems warranted, e.g. to provide evidence on potential clinical benefits after using fixed versus variable dosing.

Written by Bond K, Coyle D, O'Gorman K, Coyle K, Spooner C, Lemière C, Vandermeer B, Tjosvold L, and Rowe BH, CADTH, Canada

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