

Principal findings of systematic reviews for chronic treatment in childhood asthma

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Abstract

Objective: To summarize the principal findings pertaining to most effective long-term pharmacologic treatment of childhood asthma.

Methods: Systematic reviews of randomized clinical trials (SRCTs) on pharmacologic chronic treatment in children (1–18 years) with persistent asthma were retrieved through MEDLINE, EMBASE, CINAHL, SCOPUS, and CDSR (up to January 2014).

Results: One hundred eighty-three SRCTs were searched from databases. Among those, 39 SRCTs were included: two were related to step 1, 24 to step 2, nine to steps 3 and 4, and four to step 5 (according with NAEPP and GINA guidelines). The methodological quality of these SRCTs was determined by using the AMSTAR tool.

Results: For step 1: addition of ipatropium bromide to short-acting beta2-agonists does not show any benefit. For step 2: in preschoolers, inhaled corticosteroids (ICSs) reduce severe exacerbations and improve other clinical and lung function parameters. In children, ICSs are superior to leukotriene receptor antagonist (LTRA), cromones, or xantines in reducing severe exacerbations, improving lung function and other clinical outcomes. Fluticasone propionate (FP) is better than beclomethasone dipropionate (BDP) or budesonide only for lung function; but similar to hydrofluoroalkane-BDP or to ciclesonide. Compared to low ICSs doses, moderate doses result in only better lung function, but this is not true for FP. For steps 3 and 4: adding LTRA to ICS confers a small benefit; adding LABA improves lung function but does not reduce exacerbations more than double or higher ICS doses. For step 5: adding omalizumab decreases exacerbations.

Conclusions: SRCTs are useful for guiding decisions in chronic childhood asthma treatment.