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Stepping down the dose of inhaled corticosteroids for adults with asthma (Review)



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[Intervention Review]

Stepping down the dose of inhaled corticosteroids for adults with asthma

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ABSTRACT

Background

Asthma is a condition of the airways affecting more than 300 million adults and children worldwide. National and international guidelines recommend titrating up the dose of inhaled corticosteroids (ICS) to gain symptom control at the lowest possible dose because long-term use of higher doses of ICS carries a risk of systemic adverse events. For patients whose asthma symptoms are controlled on moderate or higher doses of ICS, it may be possible to reduce the dose of ICS without compromising symptom control.

Objectives

To evaluate the evidence for stepping down ICS treatment in adults with well-controlled asthma who are already receiving a moderate or high dose of ICS.

Search methods

We identified trials from the Specialised Register of the Cochrane Airways Group and conducted a search of ClinicalTrials.gov (www.ClinicalTrials.gov) and the World Health Organization (WHO) trials portal (www.who.int/ictrp/en/). We searched all databases from their inception with no restriction on language. We also searched the reference lists of included studies and relevant reviews. We performed the most recent search in July 2016.

Selection criteria

We included randomised controlled trials (RCTs) of at least 12 weeks' duration and excluded cross-over trials. We looked for studies of adults (aged \geq 18 years) whose asthma had been well controlled for a minimum of three months on at least a moderate dose of ICS. We excluded studies that enrolled participants with any other respiratory comorbidity.

We included trials comparing a reduction in the dose of ICS versus no change in the dose of ICS in people with well-controlled asthma who a) were not taking a concomitant long-acting beta agonist (LABA; comparison 1), and b) were taking a concomitant LABA (comparison 2).

Data collection and analysis

Two review authors independently screened the search results for included studies, extracted data on prespecified outcomes of interest and assessed the risk of bias of included studies; we resolved disagreements by discussion with a third review author. We analysed dichotomous data as odds ratios (ORs) using study participants as the unit of analysis and analysed continuous data as mean differences (MDs). We used a random-effects model. We rated all outcomes using the GRADE (Grades of Recommendation, Assessment, Development and Evaluation) system and presented results in 'Summary of findings' tables.



Main results

We included six studies, which randomised a total of 1654 participants (ICS dose reduction, no concomitant LABA (comparison 1): n = 892 participants, three RCTs; ICS dose reduction, concomitant LABA (comparison 2): n = 762 participants, three RCTs). All included studies were RCTs with a parallel design that compared a fixed dose of ICS versus a 50% to 60% reduction in the dose of ICS in adult participants with well-controlled asthma. The duration of the treatment period ranged from 12 to 52 weeks (mean duration 21 weeks; median duration 14 weeks). Two studies were performed in the setting of primary care, two were performed in the secondary care setting and two reported no information on setting.

Meta-analysis was hampered by the small number of studies contributing to each comparison, combined with heterogeneity among outcomes reported in the included studies. We found the quality of synthesised evidence to be low or very low for most outcomes considered because of a risk of bias (principally, selective reporting), imprecision and indirectness. Although we found no statistically significant or clinically relevant differences between groups with respect to any of the primary or secondary outcomes considered in this review, the data were insufficient to rule out benefit or harm.

Authors' conclusions

The strength of the evidence is not sufficient to determine whether stepping down the dose of ICS is of net benefit (in terms of fewer adverse effects) or harm (in terms of reduced effectiveness of treatment) for adult patients with well-controlled asthma. A small number of relevant studies and varied outcome measures limited the number of meta-analyses that we could perform. Additional well-designed RCTs of longer duration are needed to inform clinical practice regarding use of a 'stepping down ICS' strategy for patients with well-controlled asthma.

PLAIN LANGUAGE SUMMARY

Stepping down the dose of inhaled corticosteroids for adults with asthma

Background

Asthma is a condition of the airways affecting more than 300 million adults and children worldwide. National and international guidelines recommend increasing the dose of inhaled corticosteroids (ICS) in steps to gain control of symptoms at the lowest possible dose because long-term use of higher doses of ICS carries a risk of side effects. For patients whose asthma symptoms are controlled on moderate or higher doses of ICS, it may be possible to reduce the dose of ICS (step down) without losing control of asthma symptoms.

Review question

We searched for studies (minimum length 12 weeks) in people with well-controlled asthma that compared the effect of reducing the dose of ICS versus maintaining the dose of ICS. Studies had to include adults aged 18 years or older whose asthma was well controlled on a medium dose of ICS for a minimum of three months. We were also interested in determining whether taking another type of inhaled asthma medication (long-acting beta agonists - LABAs) would influence the results. Two review authors screened the search results independently of each other and determined which studies were relevant for inclusion in this review. The relevant information from these studies was also added to this review by two review authors independently.

Results

We found six studies that were relevant to our review. Overall, we found no differences between groups (reduced ICS dose vs maintained ICS dose) in terms of asthma attacks, asthma control, quality of life or side effects. Taking or not taking LABA at the same time did not appear to affect the results. However, we assessed the quality of the evidence as low or very low because of the low number of studies found and problems with how the studies were reported. This means that we cannot be certain of our findings; additional studies are needed to explore this topic.

Conclusions

In conclusion, current evidence is not good enough to show whether patients can reduce their ICS dose without losing control of their asthma. It is also not clear whether stepping down the dose of ICS would reduce the occurrence of side effects. Additional studies are needed to answer this question.