Preventing asthma deaths: interventions for people with asthma-COPD overlap syndrome (ACOS)

Cochrane Airways Scoping Search Report

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Introduction to the scoping search report

This scoping search report describes the methods and results of scoping activities undertaken by Cochrane Airways on interventions for people who have asthma-COPD overlap syndrome. Interventions to prevent asthma deaths was identified as a priority by the Cochrane Airways Priority Setting Group (CAPSG) as part of the Cochrane Airways ‘whole of scope’ priority setting exercise conducted in 2019/2020. Asthma-COPD overlap syndrome was identified as a factor in asthma-associated deaths in the 2014 National Review of Asthma Deaths.

This scoping search report does not attempt to appraise or synthesise the included studies. It provides a summary of the existing evidence on this topic.

Purpose

The purpose of this scoping search report is:

- to assess what evidence exists for this topic
- to inform the development of future Cochrane Review titles
- to provide a transparent record of scoping work undertaken by Cochrane Airways

Study inclusion criteria

Population: people with asthma-COPD overlap syndrome

Intervention: any

Comparator: any

Outcomes: any

Study design: Reviews, randomised controlled trials (RCTs), quasi-RCTs

Literature search

A limited literature search was conducted to identify relevant systematic reviews and trials. A search of the Cochrane Airways Trials Register and CENTRAL was conducted to identify relevant RCTs and quasi-RCTs, and Epistemonikos was searched to identify systematic reviews. The search strategy can be found in the appendix. The search was conducted on 5th May 2020.

Assessment of search results

The database search for RCTs retrieved 42 references after duplicates were removed. The search for systematic reviews retrieved 7 references. One member of the Cochrane Airways team (LS) screened the titles and abstracts using the Cochrane Register of Studies triage function, and checked full-text if necessary.

Included studies

The search identified 2 related systematic reviews and 7 RCTs (8 references). The reviews and studies are summarised in Table 1 and Table 2. The primary reference for each study is listed in the References section.
<table>
<thead>
<tr>
<th>Study ID</th>
<th>Review type</th>
<th>Registration</th>
<th>Population</th>
<th>Intervention/theme</th>
<th>Outcome(s)</th>
<th>No. included studies</th>
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<tbody>
<tr>
<td>Amegadzie 2019</td>
<td>Systematic review of interventions</td>
<td>PROSPERO: CRD42018090863</td>
<td>Patients with asthma-COPD overlap</td>
<td>• LABA</td>
<td>Death; hospitalization, myocardial infarction; lung function; exacerbations</td>
<td>10</td>
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<td>• ICS</td>
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<td>• LABA/ICS</td>
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<td>Mostafavi-Pour-Manshadi 2018</td>
<td>Scoping review</td>
<td></td>
<td>Patients with asthma-COPD overlap</td>
<td>FENO measurement</td>
<td>Modifying factors in FENO measurement; FENO in COPD compared with healthy subjects; FENO in ACOS compared with COPD; FENO and disease severity/progression; FENO and biomarkers; FENO and treatment response</td>
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<tr>
<td>Study ID</td>
<td>Trial Registration</td>
<td>Population</td>
<td>Intervention(s)</td>
<td>Comparator</td>
<td>No. participants randomized</td>
<td>Country</td>
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<tr>
<td>Xu 2019</td>
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<td>Patients with ACOS</td>
<td>inhaled glucocorticoid combined with tiotropium bromide</td>
<td>inhaled glucocorticoid</td>
<td>86</td>
<td>China</td>
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<td>Ishiura 2015</td>
<td>UMIN000014191</td>
<td>Patients with ACOS</td>
<td>Once-daily fluticasone furoate/vilanterol</td>
<td>Twice-daily fluticasone furoate/vilanterol</td>
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<td>Japan</td>
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<tr>
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<td>NCT03695276</td>
<td>Patients with COPD, asthma, and asthma-COPD overlap syndrome (ACOS)</td>
<td>Pulmonary specialist-health coach consultation (PushCon) model</td>
<td>Usual care</td>
<td>Not yet recruiting</td>
<td>USA</td>
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<td>UMIN000026651</td>
<td>Patients with ACOS</td>
<td>Budesonide/Formoterol plus Glycopyrronium</td>
<td>No treatment</td>
<td>Target=15</td>
<td>Japan</td>
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<td>UMIN000021086</td>
<td>Patients with ACOS</td>
<td>Fluticasone furoate/vilanterol plus Umeclidinium</td>
<td>Fluticasone furoate/Vilanterol</td>
<td>Target=20</td>
<td>Japan</td>
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<td>UMIN000016135</td>
<td>Patients with ACOS</td>
<td>Leukotriene receptor antagonist</td>
<td>Placebo</td>
<td>Target=20</td>
<td>Japan</td>
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<td></td>
<td>EUCTR2015-002046-31-ES</td>
<td>Patients with ACOS</td>
<td>Fluticasone propionate / formoterol fumarate</td>
<td>Indacaterol maleate / glycopyrronium bromide</td>
<td>Target=130</td>
<td>Multi-centre</td>
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References

Systematic reviews


Randomized controlled trials
Xu H, Lu X. Inhaled glucocorticoid with or without tiotropium bromide for asthma-chronic obstructive pulmonary disease overlap syndrome *Journal of the College of Physicians and Surgeons-Pakistan: JCPSP* 2019: 29 (3); 249-252


NCT03695276. Pulmonary specialist-health coach consult model pilot [https://clinicaltrials.gov/show/nct03695276 2018]


UMIN000016135. Role of leukotriene in patients with asthma-COPD overlap syndrome (ACOS) [http://www.who.int/trialsearch/Trial2.aspx?TrialID=JPRN-UMIN000016135 2015]

EUCTR2015-002046-31-ES. A research study to compare two treatments for treating a respiratory disease known as asthma-COPD overlap syndrome (ACOS) [http://www.who.int/trialsearch/Trial2.aspx?TrialID=EUCTR2015-002046-31-ES 2016]

Appendix: Database search strategies
*Cochrane Airways Register of Trials & CENTRAL (via The Cochrane Register of Studies)*

#1 ACOS:ti,ab

#2 ((asthma-COPD or asthma-chronic obstructive pulmonary disease) and ("overlap syndrome" or overlap-syndrome)):ti,ab

#3 MESH DESCRIPTOR Asthma-Chronic Obstructive Pulmonary Disease Overlap Syndrome EXPLODE ALL

#4 #1 OR #2 OR #3

*Epistemonikos*

Search terms: asthma-COPD overlap