A study conducted by Asthma UK found evidence that inhaled long-acting bronchodilators are being prescribed without an inhaled corticosteroid (ICS) and short-acting reliever inhalers are being prescribed excessively in some people with asthma. It highlights the importance of optimising medicines by stepping-up and stepping-down treatment appropriately, in line with the BTS/SIGN guideline on the management of asthma. The NICE quality standard for asthma states that people with asthma should receive a structured review at least annually and have a written personalised action plan. NICE clinical guidelines on asthma: diagnosis and monitoring (anticipated publication date to be confirmed) and asthma management (anticipated publication June 2017) are currently underway.

Overview and current advice

The BTS/SIGN guideline on the management of asthma recommends that anyone prescribed more than one short-acting bronchodilator inhaler device a month should be identified and have their asthma assessed urgently, with measures taken to improve asthma control if this is poor. Good asthma control is associated with little or no need for a short-acting bronchodilator. Inhaled corticosteroids (ICS) are the recommended preventer drug for adults and children. These should be introduced (at step 2) for people who have had an asthma attack in the last two years; are using inhaled short-acting beta-2 agonists three times a week or more; experience asthma symptoms three times a week or more; or are waking one night a week with their asthma symptoms. Inhaled long-acting beta agonists (LABAs) should not be used without ICS. The NICE technology appraisal guidance on ICS for the treatment of chronic asthma in adults and children aged 12 years and over recommends a combination inhaler, within its marketing authorisation, as an option if treatment with an ICS and a LABA is considered appropriate.

In May 2014 the National Review of Asthma Deaths\(^1\) was published by the Royal College of Physicians. It looked into the circumstances surrounding 195 deaths from asthma from 1 February 2012 to 30 January 2013. With implications for medicines and prescribing, it found evidence of:

- **Excessive prescribing of short-acting reliever medication.** It found that 39% of people who died (65/165 who were prescribed short-acting reliever inhalers and for whom data were
available) had been prescribed more than 12 short-acting reliever inhalers in the year before death and 4% had been prescribed more than 50 reliever inhalers.

- **Under-prescribing of preventer medication.** It found that 38% of people who died (49/128 who were prescribed preventer inhalers and for whom data were available) were issued with fewer than 4 preventer inhalers and 80% (103/128) were issued with fewer than 12 preventer inhalers in the previous year. Most people would usually need at least 12 preventer prescriptions per year.

- **Inappropriate prescribing of LABA inhalers.** From the data available it found that 14% (27/193) of people who died were prescribed a single-component LABA at the time of death. At least 3% (5/193) were prescribed LABA monotherapy without ICS preventer treatment.

The National Review of Asthma Deaths[^1] issued several recommendations to help prevent further deaths from asthma. These include having a designated named clinical lead for asthma services in every NHS hospital and general practice, providing everyone with asthma a personal written asthma plan and a structured review by a trained healthcare professional at least annually (closer monitoring for people at high risk of severe asthma attacks). For medicines and prescribing this includes urgently reviewing all patients with asthma who have been prescribed more than 12 short-acting reliever inhalers in the previous 12 months, assessing inhaler technique, monitoring non-adherence to preventer ICS and encouraging use of combination inhalers (prescribing LABAs with ICS in a single inhaler). This review also recommended introducing electronic surveillance of prescribing in primary care to alert clinicians to people being prescribed excessive quantities of short-acting reliever inhalers, or too few preventer inhalers.

The NICE Pathway: asthma brings together all related NICE guidance and associated products on the condition in a set of interactive topic-based diagrams. The Royal College of Physicians has produced slide sets on the National Review of Asthma Deaths to support professionals and local coordinators in raising awareness.

**New evidence**

Following on from the National Review of Asthma Deaths[^1], Asthma UK published a report[^2] on the scale of concerns around asthma prescribing. This was based on an analysis they undertook to identify how often the prescribing errors outlined in the 195 cases in the National Review of Asthma Deaths occur in the routine care of the general asthma population. In collaboration with the Respiratory Effectiveness Group and Optimum Patient Care, data on 94,955 people with asthma taken from GP practice systems in England, Northern Ireland, Scotland and Wales during 2010 to 2013 were analysed[^2].

The authors found that 0.4% of people (402/94,955) were prescribed LABAs without ICS. Furthermore, 5% of people (5032/94,955) had been prescribed more than 12 short-acting reliever inhalers over a 12 month period. Almost 40% of these had not been reviewed, including 117 children. For these 40% who were not reviewed, the number of short-acting reliever inhalers prescribed per person in 12 months ranged from 13 to 80[^2].

**Commentary**

**Commentary provided by the Medicines and Prescribing Centre**

This report from Asthma UK[^2] builds on the findings from the National Review of Asthma Deaths[^1] and challenges staff at every level of the health service across the UK to consider the safety of prescribing for people with asthma. In particular, it highlights the importance of ensuring optimal treatment by stepping-up and stepping-down treatment appropriately, in accordance with the BTS/SIGN guideline on the management of asthma. When the authors considered the implications of their findings on
prescribing of LABA inhalers within the UK population, they estimated that 22,840 people with asthma, including 1,903 children, could have been prescribed LABAs without ICS. In addition to being outside BTS recommendations, the MHRA recommends that LABAs should not be used without also taking regular corticosteroids. When used alone, LABAs have been associated with a worsening (sometimes severe) of asthma in some patients.

The authors also estimated that around 106,742 people with asthma in the UK, including more than 10,000 children, may have been prescribed excessive amounts (more than 12 per year) of reliever inhaler without being reviewed. They recommended that systems should be put in place which alert doctors, nurses and pharmacists to these prescribing patterns.

Asthma UK issued some specific recommendations following their findings. These include:
- immediately recalling everyone who has been prescribed long-acting bronchodilators alone
- identifying and reviewing people who may have received inappropriate asthma prescriptions, such as more than 12 reliever inhalers in the last 12 months
- putting audits and electronic alert systems in place to prevent poor practice from occurring
- ensuring that every person with asthma has a written asthma action plan and introducing a standardised asthma review template across the UK.

The NICE quality standard for asthma states that people with asthma should receive a structured review at least annually and have a written personalised action plan. They should also receive specific training and assessment in inhaler technique before starting any new inhaler treatment. NICE clinical guidelines on asthma: diagnosis and monitoring (anticipated publication date to be confirmed) and asthma management (which includes the pharmacological management of chronic asthma; anticipated publication June 2017) are currently underway.

Study sponsorship

Sponsorship details not stated, but data was analysed by Asthma UK in collaboration with Respiratory Effectiveness Group and Optimum Patient Care.

References


About this Medicines Evidence Commentary

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