

PERSONAL OPINION

Treatment of mild persistent asthma

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Summary

There are several treatment options available for patients who have mild persistent asthma. After being shown a typical case study and three possible treatment options, three respiratory specialists each selected a different option. The options were: using a combination beclometasone/albuterol inhaler on an as-needed basis; daily treatment with an oral leukotriene receptor antagonist together with as-needed use of a short-acting beta2-agonist (SABA) inhaler; and using a combination inhaled corticosteroid/long-acting beta2-agonist inhaler once-daily together with as-needed SABA. The evidence for each option is reviewed in the light of recent research.

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Introduction

How do you treat a patient with mild persistent asthma? A number of authors were presented with a hypothetical case study and were asked to give their opinions regarding the best sort of treatment options. Their management choices and decisions were all interesting, and in this short Personal Opinion article I will review the differences in the light of recent research findings.

Case report

'Mrs A' is a thirty year-old white administrative assistant with a lifelong history of asthma who comes to see you for review of her asthma medication. Asthma was diagnosed in infancy, and she needed several emergency room (ER) visits but no hospital admissions as a child. Her asthma symptoms settled in late childhood and were quiescent until five years ago, when she had a recurrence of symptoms after the birth of her first child. At that time she was prescribed regular beclometasone 80 mcg two puffs twice-daily and as-needed salbutamol (albuterol) which she uses two or three times a week, mostly for pre-exercise prophylaxis. She has been stable with no exacerbations, no unscheduled medical visits, and no night awakenings for four years. Her spirometry shows a forced expiratory volume in one second (FEV₁) of 82%

predicted, a forced vital capacity (FVC) of 82% predicted, and an FEV₁/FVC ratio of 0.82. The fraction of exhaled nitric oxide (FeNO) value is 10 ppb. Her skin tests show a reaction to ragweed only.

She would like to decrease her asthma medications as she is concerned about the long-term effects of her treatment. She is willing to tolerate a few symptoms if necessary.

Three treatment options were given:

- 1) Switch the treatment to a combination beclometasone/albuterol inhaler to be used as-needed only when symptoms occur
- 2) Switch to an oral leukotriene receptor antagonist (LTRA) plus as-needed short-acting beta2-agonist (SABA)
- 3) Switch to a combination inhaled corticosteroid (ICS)/long-acting beta2-agonist (LABA) inhaler to be used each morning, plus as-needed SABA

Option One: as-needed beclometasone/albuterol combination inhaler

Dr. Monica Kraft of the pulmonary division of Duke Medical Centre in Durham NC chose this as the best choice. She quoted studies¹ that showed little difference in efficacy between regular and as-needed ICS, and the fact that patients want the safety of less steroid treatment² and are

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prepared to tolerate some symptoms in order to achieve this. She also wondered about the problems of compliance with regular daily medication in a patient like this,³ whose symptoms were very mild. Recently, Papi *et al* showed that use of a combination beclometasone/albuterol inhaler used on an as-needed basis worked just as well as regular fixed-dose beclometasone.⁴

Option Two: regular LTRA plus as-needed SABA

Dr. Elliot Israel of the Pulmonary and Critical Care Division of Brigham and Woman's Hospital in Boston chose this option. He too quoted safety concerns with ICS² and the patient's desire for fewer side effects. Most of this patient's symptoms are exercise-induced, and LTRAs have been shown to be effective in exercise-induced asthma.⁵ While lung function studies have come out in favour of ICS in ICS vs LTRA trials,^{6,7} her lung function is good, and symptomatically she is well. This strategy would fulfil all of her concerns – safety and symptoms.

Option Three: Once-daily LABA/ICS with as-needed SABA

Dr. George O'Connor from the Pulmonary Center at Boston University School of Medicine defended this position. He quoted the excellent control and exacerbation reduction of combining LABA and ICS,⁸ and work done suggesting that once-daily may almost be as good as twice-daily dosing.⁹ There have been concerns over LABA use, but these concerns only extend to LABA use when used for treating asthma in the absence of concomitant ICS treatment – which we do not recommend. When used in conjunction with ICS, LABAs are safe.^{10,11} Thus, he summarises that excellent control at lower doses of ICS could be attained with once-daily combination therapy, even though there is no world guideline yet recommending this treatment option for mild asthma.

Discussion

All three authors used recent literature to make their points in defense of their chosen option. As is often the case in medicine, in my opinion there were no wrong answers. We try to distil evidence from randomised controlled trials and other reputable studies into clinical practice – attempting to provide evidence-based care for individual patients – and we know that this can be problematic. Often, patients are basically given a trial of therapy, an 'n=1' study, as it were. These three different treatment options are all valid – albeit that there is no guideline evidence for Option Three and

limited evidence for using a combination ICS/LABA inhaler in patients with mild persistent asthma. However, we must remember to work with Mrs A to balance her perceived needs and concerns over the medication and the condition, with the need to treat her appropriately. She is not incorrect in her concerns over inhaled steroids,² yet, as clinicians, we do tend to minimise patients' concerns.

Whatever treatment we use, we must follow-up and measure success appropriately and regularly, ensuring asthma control and safety. Some evidence has been provided for the three treatment strategies proposed. Interestingly, I can think of a few other treatment strategies that my three correspondents did not include... What do you think? By all means write to us at info@gpiag.org giving us your opinion on how we should treat Mrs A.

Conflict of interest declaration

Dr. Kaplan has served as an advisor or speaker for Altana, Abbott, AstraZeneca, Bayer, Boehringer Ingelheim, GlaxoSmithKline, Janssen Ortho, Merck Frosst, Novartis, Pfizer, Purdue, and Ross.

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