

Case study: Mary

About this case study

What is included in this case study?

This case study consists of materials to print out for use directly as they are, or for adaptation to suit particular audiences.

There are pages to print out to form hand out notes for participants, broken down into two parts.

Facilitator notes to print out are also included, to guide the leader of a discussion workshop based on the case.

Pages showing the case summary to prompt questions are also included. These are available as powerpoint slides.

Who can use this case study?

The materials are designed for use by a facilitator with a small group of health care professionals, such as practice nurses, hospital nurses working in respiratory and general medicine care, GPs and junior hospital doctors working with patients with asthma (eg those in paediatrics, respiratory medicine, geriatrics and A&E).

The group should be kept small enough to encourage participation in the discussion.

A group of 8-15 may be ideal, though the materials can also be adapted for use with groups of other sizes or with individuals.

Using this case study

This case study is designed to give plenty of opportunity to discuss asthma management and key points from the revised British Guideline on the Management of Asthma (2008).

The two parts of the case study should be handed out to participants progressively, so that the story unfolds and to allow for discussion around all the salient points.

After each part has been read, the facilitator may like to initiate discussion by posing questions. The facilitator notes give guidance on the points to bring out in the ensuing discussion. In addition to the key issues to be covered, other discussion points are suggested, together with practical issues that could be raised.

The case study should give ample opportunity to tailor the discussion to suit the needs and interests of the participants.

It is possible to use only one part of the case, if more appropriate for the participants concerned or if there are time constraints.

Learning outcomes

This case illustrates the value of structured care, as well as highlighting the sub-optimal control that is the reality for many patients with asthma. Asthma symptoms should not restrict activities and there should be minimal need for reliever treatment.

After completing the first part of the case, participants should be able to:

- recognise the signs of uncontrolled asthma in patients at Step 2 of the guideline.
- describe appropriate management for patients at Step 3 of the guideline.

After completing the second part of the case, participants should be able to:

- recognise the warning signs of an acute asthma exacerbation in an adult
- describe appropriate management for an adult experiencing an acute exacerbation
- detail the information required by patients to understand their therapy
- discuss appropriate self-management plans.

Part 1: notes for participants

History

Mary is a 51 year old book keeper. As a child, she had a 'weak chest', but as an adult, the symptoms became less troublesome, except in the weeks following the occasional cold. She would probably have become wheezy with exercise, but she had a sedentary lifestyle so was not troubled by her asthma.

However, over the last 5 years, Mary's symptoms had gradually increased, becoming more of a problem despite the regular use of inhaled steroids. She has symptoms most days and is woken at least one night a week. This disturbs her light-sleeping mother, who has lived with Mary since she was widowed some 8 years ago.

Problems arising from dog walking

The situation has come to a head since Mary's elderly mother fell and broke her femur, so that responsibility for walking her mother's dog has fallen to Mary. The dog enjoys its exercise – but Mary dreads the morning walk as even gentle walking in the early morning is triggering wheeze that is making her uncomfortable for the rest of the morning. Mary has used so much of her reliever inhaler that an appointment for review in the asthma clinic has been triggered.

Part 2: notes for participants

Should we suggest spirometry? No. An abnormal spirometry when she is symptomatic would not tell us about irreversible component. Best to optimise Rx first and then, if symptoms persist consider spirometry.

Compliance and inhaler technique

Mary is a very systematic and organised person. She always requests prescriptions for her inhaled steroids at the appropriate regular intervals. She keeps a peak flow chart, even when she is well, ticking off the inhaled doses as she takes them and recording her symptoms diligently. Furthermore, she uses her MDI with spacer very well, and washes the spacer regularly, leaving it to air dry as recommended.

Adding in therapy

A long-acting β^2 agonist was added to Mary's steroid regimen, taken twice daily through the spacer device. At the 4 week review, Mary was delighted with her progress. Her asthma control was much better – no longer waking at night, walking the dog with comfort and needing far less reliever inhalations. However, at the 6 month review, the asthma nurse noticed from Mary's prescribing records that she had stopped the steroid inhaler for a little while and taken only the long-acting β^2 agonist, though she had started taking both again after a couple of months. The asthma nurse talked to Mary about the different roles of the therapy, and the importance of the underlying preventer treatment. Mary was actually aware of this, but close questioning revealed that she was concerned about the prescription charges. Switching to combination therapy removed this concern.

Visiting her daughter

All went well for Mary's asthma control until she visited her daughter in Aberdeen. Unfortunately, since her previous visit, Mary's daughter had acquired two cats. Within a few hours in the house, Mary began to sneeze and wheeze. She checked the asthma action plan that she had previously been given, but it had not taken into account the switch to a combination inhaler and she was not sure what to do. Although Mary had her emergency course of oral steroids with her, she was frightened to take them. After a very uncomfortable and disturbed night, Mary thought it sensible to be checked at her daughter's surgery.

Mary arrived at the surgery when the doctors were all out on visits. As she was clearly breathless, the receptionist ensured that the practice nurse saw Mary as her next appointment, in between the patients waiting for diabetes clinic reviews. The nurse usually saw her asthma clinic patients the following day, but the receptionist had a check list of signs to look for in patients who could be suffering from acute asthma.

The practice nurse measured Mary's peak flow – 180L/min compared to her best of 400L/min (45%), and also her respiratory rate – 27 breaths/minute. Although Mary was breathless, she could speak enough to explain the situation to the nurse. Oxygen saturation was 93% in air.

Part 1: facilitator's notes

The key questions for discussion are listed below, with points that should emerge during the discussion. A number of other topics that could be discussed, together with practical issues, are also indicated.

Was the asthma clinic review appropriate?

Inviting Mary in for review was entirely appropriate. (section 8.1.1, page 77)

It is important to identify patients using large quantities of reliever treatment as this indicates inadequate control and the need to optimise treatment. (section 4.1.1, page 34)

Structured care allows this type of proactive review, benefiting individual patients by catching the early warning signs of deteriorating control. It also facilitates auditing of the asthma care delivered by the practice. (section 8.1, page 77)

Practical discussion point

How does the practice identify over use of bronchodilators? The computer database can be searched at intervals to generate a list of patients using more relief inhalers than a defined limit. Alternatively, the repeat prescribing programme can be set to issue only a limited number of inhalers (eg four repeats) before forcing re-authorisation, so that frequent users can be identified reasonably quickly. At every review the use of all medications should be explored with patients and a check made to ensure that computer prescription frequency matches patient useage. If this is not the case an opportunity to discuss the reasons behind this are important.

How will you tackle the problems presented by Mary?

- Consider possible causes for the loss of control experienced by Mary.
- She is not on beta blockers, does not have menorrhagia and is not anaemic.
- There are no signs of heart failure, and she has never smoked.

The dog has been in the family for many years, so is unlikely to be the problem (section 3.2.2, pages 27-28) – the symptoms appear to be related to exercise. However, this may simply be a reflection of the poor underlying asthma control. (section 4, page 33). The history sounds highly probable for a diagnosis of asthma and previous response to therapy supports this. (section 2.4, pages 11-13)

Assessing Mary's symptoms, and any relevant clinical signs is important. Measurement of peak flow would be useful in the consultation and an assessment as to whether spirometry should be performed. Inhaler technique and compliance also need to be assessed. A discussion would be important around Mary's ideas concerns and expectations. Assuming that these are satisfactory, Mary requires therapy at step 3 of the guidelines, with the addition of a long acting bronchodilator. (section 4.3: pages 37-38)

Key points

- Add inhaled long-acting β^2 agonists rather than increasing dose of inhaled steroids (above 800mcg/ day in adults and 400mcg/day in children)
- Consider lifestyle, concordance, and patient views in managing asthma.
- Failure to obtain a good response should trigger reconsideration of the diagnosis and consideration of spirometry (section 2.4: pages 11-13)

Part 2: facilitator's notes

The key questions for discussion are listed below, with points that should emerge during the discussion. A number of other topics that could be discussed, together with practical issues, are also indicated.

Mary is having a severe acute attack, characterised by PEF 33-50% of best or predicted and a respiratory rate of ≥ 25 breaths/minute. The agreed practice protocol for the management of acute asthma, reflecting evidence-based guidelines, ensured that the receptionist acted appropriately. (section 6.2, pages 53-56)

Practical discussion point

What information needs to be recorded to ensure that the severity of the attack can be assessed from the records? (section 6.2: page 53-56) Who needs copies of the clinical records – Mary's GP? the Aberdeen practice that treated her? Mary herself? (section 9.2, pages 83-84)

What should the nurse do now?

Mary needs nebulising with high dose bronchodilator (salbutamol 5mg or terbutaline 10mg) using an oxygen driven machine or if not available then via a spacer. (section 6.3, page 56) The specialist training of the practice nurse has given her the knowledge and confidence to administer this therapy, and a Practice Group Direction is in place to allow her to give the prescription only product. Mary also needs 40mg soluble prednisolone, as she has not started taking her own emergency course. This should continue until she is better and for at least 5 days. (section 6.3.3, pages 56-57)

Practical discussion point

Is a prescription for the oral steroids appropriate? There is an important distinction to make between prescribing the steroids and giving them to the patient directly. The pharmacy could be closed or the patient may not understand the importance of using the prescription. It is better for practices to have a supply of oral steroids for such emergency use, to give directly to the patient. (section 6.3.3, pages 56-57)

Should Mary's response be monitored?

Mary's PEF should be measured again, 15 minutes after emergency bronchodilation. Her respiratory rate, pulse rate and clinical condition should also be re-assessed.

Should Mary be admitted to hospital?

Mary should be admitted to hospital if she fails to respond to the therapy given in the surgery. The threshold for admission would be lower if the attack was taking place in the afternoon or evening, if Mary had a history of previous severe attacks or if there was concern about her social circumstances. (section 6.3, page 56).

Part 1: case summary

51-year old woman with history of asthma

Gradual increase in symptoms over recent years: daily symptoms and night waking once a week despite inhaled steroid

Early morning exercise now triggering symptoms leading to over-use of relief inhaler

Asthma review triggered

Part 2: case summary

Long-acting β^2 agonist added to inhaled corticosteroid (Step 3)

Exposure to a trigger for an acute exacerbation

Self-management with oral steroids triggered action but not fully acted upon

Presented at surgery and importance of immediate assessment recognised by receptionist

Peak flow 45% predicted, respiratory rate 27 breaths/minute, still able to speak

Part 1: questions

Was the asthma clinic review appropriate?

How will you tackle the problems presented by Mary?

Part 2: questions

What should the nurse do now?

How should Mary's response be monitored?

Should Mary be admitted to hospital?

Was Mary's asthma action plan effective?

Part 1: key point

- Add inhaled long-acting β^2 agonists rather than increasing dose of inhaled steroids (above 800mcg/day in adults and 400mcg/day in children). They should not be prescribed without an inhaled steroid.

Further details on SIGN and BTS websites (www.sign.ac.uk and www.brit-thoracic.org.uk)

Part 2: key points

- Assess and act promptly in acute asthma – admit patients with any features of a life threatening or near fatal attack, or severe attack persisting after initial treatment
- Self-management is effective – offer self-management to all patients with asthma; reinforce with a written asthma action plan that gives patient-specific advice on signs of deteriorating asthma and appropriate actions to take (see Asthma UK website, www.asthma.org.uk)

Further details on SIGN and BTS websites (www.sign.ac.uk and www.brit-thoracic.org.uk)

Practical discussion point

What should the practice do if Mary is not admitted because she responded well to the emergency management? Mary should be given clear instructions about when to seek further help and who to contact out-of-hours. Concerns should also be raised about returning to an environment containing the trigger for her asthma.

Was Mary's action plan effective?

When therapy is altered, it is important to ensure that the patient understands any modifications to the asthma action plan. Mary did not have the confidence to take the oral steroids – she knew that she needed oral steroids but was nervous about starting them without seeing a healthcare professional. This was the first time that she had needed to follow her asthma action plan. It is not sufficient to give an asthma action plan and assume it will be acted upon, even with well informed and capable patients. However, Mary was to be congratulated on recognising that she needed treatment. With appropriate encouragement and clarification on her asthma action plan, if such a situation arose again, Mary may have more confidence. (section 9.1, pages 82-83)

Practical discussion points

What materials can be used to help with self-management plans? Materials are available from the Asthma UK. Computer-confident patients can be given suitable website addresses to consult (eg website, www.asthma.org.uk and patient.co.uk). Is knowledge about asthma and the self-management plan sufficient? Patients need the confidence to accept the autonomy and act without professional advice. How can this be facilitated in practice? Who's responsibility is it? Every asthma consultation is an opportunity to review and reinforce self-management skills.

Key points

- Assess and act promptly in acute asthma – admit patients with any features of a life threatening or near fatal attack, or severe attack persisting after initial treatment
- Self-management is effective – offer self-management to all patients with asthma; reinforce with a written asthma action plan that gives patient-specific advice on signs of deteriorating asthma and appropriate actions to take (see Asthma UK website, www.asthma.org.uk)
- Further details on SIGN and BTS websites (www.sign.ac.uk and www.brit-thoracic.org.uk)