

What else could it be?

In this regular feature we will explore cases of rarer lung conditions and their presentation

In this short case discussion **Fran Robinson** interviews **Dr Stephen Gaduzo** as they discuss John, an amateur footballer who has recently been diagnosed with asthma



John is a keen amateur footballer who has been diagnosed with asthma and is taking inhaled steroids after going to his GP complaining of a cough. He returned to see his GP when his cough didn't get better and the GP increased his treatment.

One day, during a football match, another member of the team, who is a respiratory specialist, comments on John's cough. John tells him about his treatment and the fact that he is no better now after six weeks on inhaled corticosteroids and his reliver inhaler doesn't relieve his symptoms at all. His friend recommends that he goes back to his GP stating "If you asthma treatment isn't working, then perhaps the diagnosis is not correct".

When John returns to his GP for the third time, he agrees to investigate further and sends him for a chest X-ray which reveals that he has a very large hiatus hernia. John is then treated for his hiatus hernia with high dose Proton Pump Inhibitor (PPI) therapy after which his symptoms improve. He is later referred on and has laparoscopic fundoplication surgery and his cough is eradicated.



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This case study demonstrates several important points. Firstly, if a patient has a cough, you should not always assume it is as a result of asthma or other respiratory disease. If you think it might be asthma you should also be looking for a symptom of wheeze. You should ask the patient what sound they call a wheeze, who has heard it and also ask them what they mean by wheeze. Don't take their word for it that they have a wheeze because what they describe as a wheeze might not be. Think also of family history, atopy, triggers, symptom variability, etc.

Secondly, if you diagnose someone with suspected asthma, and treat them for asthma, the

patient should see some response and improvement after six weeks. If there is no response you should start to be suspicious that there is something else going on. This message is clear in both the NICE¹ and BTS/SIGN² asthma guidelines and in our own *PCRS Consensus Statement on Asthma*³ which provides clarity on aspects of asthma diagnosis, management and monitoring.

John's story is a timely reminder that, if you start a patient on a new treatment for suspected asthma, you should arrange for them to come back after an appropriate time for review. Simply giving them an inhaler and sending them on their way is not good enough, you need to assess the

response. If there has been an improvement, it's a good opportunity to do the basics – check concordance, inhaler technique, smoking habits, other lifestyle issues, education about therapy and self-management.

There are some very important safety net questions to ask too. If the patient is a smoker, has there been any systemic change? Ask about weight loss, appetite, pain, ankle oedema and haemoptysis. Appropriate action and further investigation can then follow such as John's CXR. As in John's case, a first step should be to ask for a CXR on any patient who has had an unexplained cough for more than four to six weeks. The concern in your mind should be that you don't miss an early diagnosis of lung cancer. Here again, review is important – remember a normal CXR does not guarantee it's not a neoplasm.

A useful pointer in this case, suggesting the possibility of reflux oesophagitis, was that his cough had not got better after being given treatment for asthma. The cause of a cough may not be obvious, and may be difficult to diagnose confidently – even at my local tertiary care specialist cough clinic, as many as one third of patients don't go away with a definitive diagnosis after extensive (and often invasive) investigation.

Other conditions you should take into account are COPD, bronchiectasis and upper respiratory causes such as postnasal drip with allergy. You may also consider, in a young adult who has a productive purulent cough whether it could be alpha-1 trypsin deficiency; or in children, could this be persistent bacterial bronchitis? Both are rare but important conditions to identify and treat.

Oesophageal reflux may cause symptoms of heartburn, but may also be the cause of cough without gastrointestinal (GI) symptoms. The patient may describe the cough being worse when lying down, during or soon after meals. Typical symptoms may include cough starting soon after waking and getting up. Cough due to reflux may also occur on speaking, singing and laughing. The Hull Cough Questionnaire⁴ can be very helpful.

Treatment with PPI and H2 antagonists can help reduce acid, though not necessarily stop the mechanical reflux causing the cough. Other drugs can alter gastric motility and improve lower oesophageal sphincter tone. Patients can be advised on self-management tips which can also help alleviate symptoms such as reducing weight, reducing caffeine intake, not eating heavy meals especially in evening and employing a strategy of not eating after 9pm as well as using antacid medication at bedtime. Ultimately, referral to GI surgeons for oesophageal manometry and pH monitoring may lead to fundoplication surgery, now usually performed laparoscopically.

References

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3. Daines L. Asthma Guidelines in Practice – A PCRS Consensus. Primary Care Respiratory Update Issue 14 Pages 9-14 <https://www.pcrs-uk.org/sites/pcrs-uk.org/files/pcru/2018-Spring-Issue-14.pdf>
4. Morice, A. H., Faruqi, S., Wright, C. E., Thompson, R. & Bland, J. M. Cough hypersensitivity syndrome: a distinct clinical entity. *Lung* 189, 73–79 (2011).

Further reading

1. Morice AH. Combating Cough. npj Primary Care Respiratory Medicine volume 26, Article number: 16012 (2016)
2. Fontana GA, Pistolesi M. Cough · 3: Chronic cough and gastro-oesophageal reflux. *Thorax* 2003;58:1092–5. <http://dx.doi.org/10.1136/thorax.58.12.1092>