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Cough and stridor: who should investigate the patient?

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Abstract
Stridor is usually produced by obstruction in the upper airways. We present a case of stridor referred to the ENT Department in whom an endoscopic examination as far as the lower trachea showed no abnormality. A subsequent bronchoscopy in the Chest Department revealed a tumour in the right main bronchus.

Key words: Respiratory sounds, stridor; Bronchial neoplasms

Case report

A 71-year-old woman was referred by her general practitioner to the ENT Department with a three-month history of dry cough, one episode of haemoptysis and intermittent stridor. She had no history of hoarseness or dysphagia. Her appetite was good and weight stable. For the last two months she had been treated with inhaled beclomethasone 200 mg twice daily and inhaled salbutamol when required. The past medical history was unremarkable. She had stopped smoking 20 years ago.

On examination there was no clubbing or lymphadenopathy. Chest auscultation revealed generalized inspiratory and expiratory wheeze. Cardiovascular and abdominal examination was normal. Initial investigations showed a total white cell count of 5.1×10^{9}, haemoglobin 127 g/dl and an ESR of 40 mm in the first hour. The urea and electrolytes, bone biochemistry and liver function tests were normal. A chest radiograph showed no abnormality.

In view of the intermittent stridor a flexible endoscopy was performed at the ENT Department. This showed no abnormality in the larynx, vocal folds or trachea. Due to persistent wheeze she was referred to the chest clinic. Spirometry performed at the chest clinic showed her FEV1 to be 1.01 L (49 per cent predicted) and FVC 1.59 L (64 per cent predicted). There was less than five per cent improvement in her FEV1 following inhaled salbutamol. She was non-atopic on skin prick testing.

Peak flow monitoring for two weeks showed no diurnal variability. A repeat chest radiograph was normal as were flow volume loops and transfer factor. Due to persistent irritating cough and stridor, fibreoptic bronchoscopy was performed. This again confirmed the normal larynx, vocal folds and trachea. But, just below the main carina, there was a polypoid tumour obstructing the right main bronchus. The histology of tumour was consistent with squamous cell carcinoma. Due to poor spirometry and the position of the tumour, it was considered inoperable. She was given a course of palliative radiotherapy with improvement in her stridor and breathlessness.

Discussion

Cough is frequently reported by patients presenting with lung cancer. But, because cough is also a symptom of so many other respiratory disorders, such as asthma (Corrao *et al.*, 1978), the possibility of a tumour may be overlooked particularly in non-smokers and in those with a normal chest radiograph. The term stridor is generally for noisy breathing produced by narrowing at the glottis or trachea, but it can also be due to obstruction in the major bronchi. About 10 per cent of patients with lung cancer have wheeze localized to one side of the chest (Spiro, 1991) and wheeze due to obstruction in a main bronchus can be indistinguishable from stridor.

Our case underlines the importance of examining all the bronchial tree in patients presenting with cough and stridor. As shown in our case a normal chest radiograph does not exclude a bronchial tumour and since wheeze and stridor could be produced by bronchial obstruction, it is prudent to examine all the bronchial tree to avoid missing bronchial tumours.

References

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