

## Inappropriately inhaled bronchodilators

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Inhalation of foreign bodies is a well recognised problem<sup>1</sup> but, surprisingly, the aspiration of tablets is rarely reported. There have been two reports in foreign publications of aspiration of sustained release tablets,<sup>2,3</sup> which because of their formulation can remain intact in the respiratory tract for prolonged periods. We report two cases in which sustained release bronchodilator tablets have been aspirated.

### Case reports

#### CASE 1

An 85 year old asthmatic man was admitted to Charing Cross Hospital complaining that four days previously he had choked on a slow release tablet of salbutamol 8 mg (Ventolin Spandet). After this episode he had developed increasing dyspnoea and cough productive of green sputum. He had never noticed any previous difficulty in swallowing food, liquid, or other tablets but he had noticed that Ventolin Spandets tended "to stick in the throat."

On admission he was afebrile but tachypnoeic, cyanosed, and in atrial fibrillation. In addition to signs of airways obstruction and of right apical fibrosis he had diminished breath sounds and coarse crackles at the right base. Investigations showed an FEV<sub>1</sub> of 0.45 litres and a forced vital capacity (FVC) of 0.8 l. Culture of the sputum grew normal flora only. Chest radiography showed overexpanded lungs, with right apical calcification suggestive of previous tuberculosis, tracheal deviation to the right, and a rectangular opacity (4 × 10 mm) in the lower part of the right main bronchus.

A tablet was removed with a rigid bronchoscope. Thereafter the patient improved, the FEV<sub>1</sub> rising to 0.8 l and the FVC to 2.3 l.

Twenty one months later the patient presented after he had inhaled another spandet four weeks previously. He had no cough and no new focal signs in the chest. He was dyspnoeic with FEV<sub>1</sub> 0.5 l and FVC 1.55 l. No foreign body was visible on a chest radiograph taken on admission to hospital, but a subsequent film showed an opacity similar in shape, size, and position to that seen on the previous occasion.

The plastic matrix of a Ventolin Spandet was removed through a rigid bronchoscope. His respiratory function subsequently improved (FEV<sub>1</sub> 0.8 l, FVC 2.05 l.) When swallowing tablets he tended to throw his head violently backwards. A barium swallow showed normal appearances.

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#### CASE 2

A 75 year old man was admitted to Charing Cross Hospital with a five day history of a cough productive of purulent sputum and of gradually increasing dyspnoea. He had a long history of chronic bronchitis and had been admitted on several occasions with acute infective exacerbations of chronic bronchitis. He gave no history of aspiration of tablets.

On admission he was dyspnoeic at rest and centrally cyanosed. Examination of the chest showed signs of airways obstruction and coarse inspiratory crackles at both bases, worse on the left side. FEV<sub>1</sub> was unrecordable and he was in respiratory failure. A chest radiograph showed longstanding right apical fibrosis compatible with healed tuberculosis. There were also recent changes of partial collapse and patchy consolidation of the left lower lobe. He improved with treatment by antibiotics, bronchodilators, and a doxapram infusion. The clinical and radiological signs at the left base persisted. Fibreoptic bronchoscopy performed three weeks after admission showed a white foreign body at the orifice of the left anteromedial basal segmental bronchus. This was removed through a rigid bronchoscope and was thought to be the plastic matrix of a Ventolin spandet.

### Discussion

Progressive loss of protective airway reflexes occurs in the elderly<sup>4</sup> and it is surprising that there have been only a few reports of inhalation of tablets. In all these cases the tablets have been slow release preparations containing an insoluble component, and it is plausible to suggest that the aspiration of soluble tablets or capsules may occur without detection.<sup>2,3</sup>

A Ventolin spandet consists of a plastic matrix impregnated with salbutamol. Our first case shows that the plastic matrix may be visible on the plain chest radiograph for several weeks after inhalation.

### References

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