CASE REPORT

An unusual cause of pneumonia: seen but not heard

Kathryn Quinn, Stephen Alan Rowan, Jacqueline Rendall

Department of Respiratory
Medicine, Belfast City Hospital,
Belfast, UK

Correspondence to

Dr Jacqueline Rendall,
Jacqueline.Rendall@
belfasttrust.hscni.net

SUMMARY

A 75-year-old man presented with a non-resolving pneumonia, malaise and weight loss. His medical history included a squamous cell carcinoma of the larynx and a non-small cell carcinoma of the lung. Chest CT showed right lower lobe collapse and consolidation. Bronchoscopy identified a foreign body in the right main bronchus and was subsequently removed with rigid bronchoscope. The removed foreign body was identified as a Blom-Singer speaking valve which had been aspirated 3 months previously. This is a rare complication of a speaking valve aspiration. This case illustrates the potential differential diagnoses of retained foreign bodies in the lung and that the symptoms can mimic neoplastic disease. Once removed, patients can have a dramatic improvement in quality of life and it is important to remember that a speaking valve may be aspirated, even if one present on the initial examination!

BACKGROUND

This is a rare complication of a Blom-Singer speaking valve aspiration. The initial history was suggestive of neoplastic recurrence and investigations were arranged to look for a sinister cause of his presenting symptoms. The finding of the foreign body was a surprise and could only be seen retrospectively on one CT image. This case was even more interesting as the patient presented with a speaking valve in place and was only able to identify a situation 3 months previously when a valve was felt to have been coughed up and lost following a fall which was then followed by a right lower lobe infection. The valve was replaced and never thought to have been aspirated. On review of the literature, this is actually a rare event with limited case reports available. In these cases, and our case, with removal of the foreign body, a full recovery is made.

CASE PRESENTATION

A 75-year-old man with a history of laryngectomy secondary to squamous cell carcinoma of the larynx and left lower lobectomy for non-small cell carcinoma of the lung, presented acutely with weight loss, general malaise, dyspnoea and a productive cough for 2 months. On examination, he had decreased air entry on the left side consistent with a previous lobectomy. In addition, there were coarse crepitations and decreased air entry at the right base. He had no fever but looked frail and cachectic. His tracheostomy was clean and a speaking valve was in place. His leucocyte count was in the normal range and C reactive protein was marginally elevated at 30 mg/L (normal range 1–10 mg/L). Chest X-ray showed a

reduction in volume of the left side and loss of volume with acute consolidation in the right lower zone. He was treated with intravenous antibiotics for probable infection with minimal improvement in symptoms.

INVESTIGATIONS

Owing to his medical history and weight loss, a CT chest was performed (figures 1 and 2). In the right lower lobe bronchus there appeared to be a little soft tissue change which was presumed to be related to retained secretions. A bronchoscopy was subsequently performed to exclude an endobronchial lesion. This revealed extensive mucous plugging of the right main bronchus and opacity in the distal right main bronchus (figure 3).

DIFFERENTIAL DIAGNOSIS

The presenting features of weight loss, malaise and non-resolving pneumonia would strongly suggest a neoplastic process, especially in this case with previous carcinomas of the larynx and lung. Alternative causes would be atypical infections or a bronchostenotic or obstructing lesion.

TREATMENT

The bronchoscopy image shows an aspirated Blom-Singer speaking valve (figure 4). This was subsequently removed using a rigid bronchoscopy. On reflection and review of the CT images, this could be seen as a foreign body in the right main bronchus. On admission to hospital, the patient had a Blom-Singer speaking valve in situ. On further questioning, an episode of a fall and collapse at home 3 months previously precipitated an

Figure 1 Axial CT showing occlusion of the right lower lobe bronchus.

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Figure 2 Coronal CT showing the speaking valve in the right lower lobe bronchus.

admission to hospital and treatment for a presumed lower respiratory tract infection. In his follow-up post-treatment, his speaking valve was noted to be absent and was subsequently replaced with the thought it had been lost at the time of his fall at home. It is most likely that the valve found at bronchoscopy was aspirated at this point.

OUTCOME AND FOLLOW-UP

After removal of the speaking valve, our patient made a full recovery and was discharged from hospital a few days after the procedure. At follow-up after 1 month, he had gained one stone in weight, was feeling much better and was in good health.

DISCUSSION

To our knowledge, there has only been one published case report of a speaking valve aspirated leading to urgent retrieval.¹ Aspiration in 23.5% of voice prostheses has been reported as a common complication of tracheoesophageal puncture but the aspiration of Blom-Singer prosthesis is rare.^{2 3} This case illustrates the importance of follow-up of apparently lost speaking

Figure 4 The retrieved Blom-Singer speaking valve.

valves. Foreign bodies can cause airway compromise if proximal, but aspiration to the lower bronchial tree can cause symptoms that mimic a neoplasm or alternative diagnoses. It is important to consider foreign body obstruction including speaking valves, even if they have one in place on admission!

Learning points

- ▶ Aspiration of foreign bodies can present both acutely and subacutely, and can mimic neoplastic disease.
- ▶ Blom-Singer speaking valve aspiration is rare, but does happen, so consider this in patients with a laryngectomy and a speaking valve in-situ (or not!).
- ▶ Removal of bronchial foreign bodies can have a dramatic improvement in symptoms and return to normal states of health prior to aspiration.

Contributors All the authors were involved in the management of the case and preparation of the final report.

Competing interests None.

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Figure 3 Direct visualisation of the foreign body at bronchoscopy.

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