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Gafurov Z.K., PhD in Medical Sciences, Associate Professor

Doctor, Department of Thoracic and Vascular Surgery

Andijan Branch of the Republican Scientific Centre for Emergency Medical Care

Uzbekistan, Andijan

RIGID AND FIBRE-OPTIC BRONCHOSCOPY IN THE REMOVAL OF FOREIGN BODIES FROM THE AIRWAYS.

Abstract. Foreign bodies in the airways are the responsibility of the emergency medical services. These patients require specialised care. Bronchoscopy under general anaesthesia or local anaesthesia has its own specific features and is applied strictly on a case-by-case basis.

Keywords: foreign body, bronchi, bronchoscopy.

Introduction. In the day-to-day practice of the Department of Thoracic and Vascular Surgery at the Andijan Branch of the Republican Scientific Centre for Emergency Medical Care (AF RSCEMC), questions frequently arise regarding the management of patients with foreign bodies in the airways.

Methods. In the majority of cases, foreign bodies—such as plastic pen caps, safety pins, coins, etc.—are aspirated from children and adolescents; however, adult patients are occasionally admitted, in which case the foreign bodies are more often of an alimentary nature, having entered the airways whilst laughing, coughing or in similar circumstances.

A rigid bronchoscope (Karl Storz) and a fibreoptic bronchoscope (Pentax FB18V) were used. Rigid bronchoscopy was performed under general anaesthesia in the

operating theatre, whilst fibreoptic bronchoscopy was performed under local anaesthesia using a 2% lidocaine solution.

Study results. We have decided to share our experience of removing foreign bodies from two patients: in one case, a 12-year-old girl underwent rigid bronchoscopy under anaesthesia, followed by fibreoptic bronchoscopy; in the other case, an adult patient inhaled a plastic cap from a medicine bottle and was admitted with severe respiratory failure.

A 12-year-old female patient was admitted to the paediatric surgery department complaining of shortness of breath and a feeling of breathlessness, which she attributed to having swallowed a safety pin about half an hour earlier. According to the patient and her relatives, the mechanism of aspiration was rather unusual: the pin was in the patient's mouth when she was suddenly startled by a friend, leading to aspiration of the sharp object, after which her symptoms began.

At the time of examination, the patient's condition was stable; she was tachypnoeic, with pale skin; auscultation revealed vesicular breath sounds bilaterally; and a radiograph showed the presence of a foreign body (a metal needle with a thickened tip) in the left lung. A rigid bronchoscopy (Karl Storz) was performed on the patient under general anaesthesia, but it was not possible to remove the foreign body (due to airway stenosis and the depth at which the foreign body was lodged); a fibreoptic bronchoscopy (Pentax FB18V) was then performed immediately, whilst the patient was under medicated sedation. The fibre-optic bronchoscope was inserted transorally and an examination was carried out – a foreign body (a needle) was found in segment B-10 on the left, with the sharp end pointing upwards.

Using biopsy forceps, the tip was grasped and traction applied under visual guidance – the foreign body was removed; the patient tolerated the procedure well and was discharged the following day after the removal in a satisfactory condition.

The second case involved a 42-year-old man who presented to the A&E department of the emergency medical centre complaining of a feeling of shortness of breath, dyspnoea, weakness and fear of death. He attributed these symptoms to the aspiration of a soft plastic cap from a medicine bottle, which he had accidentally swallowed 20 minutes earlier. The patient's condition is serious; he is alert and seated on a stretcher. Notable features include marked pallor of the skin and cyanosis of the visible mucous membranes; respiratory rate is up to 24 breaths per minute, shallow; blood pressure is 140/80 mm Hg; heart rate is 94 beats per minute. On X-ray: the lung fields are clear, the sinuses are clear, the mediastinal shadow shows no pathology, and there is no evidence of a foreign body. A fibreoptic bronchoscopy was performed (using a Pentax FB18V device), revealing a foreign body in the intermediate bronchus – a smooth, transparent cap, tightly adhering to the bronchial walls; the foreign body was removed using 'rat's tooth' forceps; it should be noted that removal was achieved on the third attempt, after the upper edge of the cap had been slightly displaced and grasped by the forceps. Following the removal of the foreign bodies, no complications were observed in either the first or the second cases.

Conclusion. Thus, in the treatment of diseases of the tracheobronchial tree—in particular, the endoscopic removal of foreign bodies from the airways—the nature, size and depth of the foreign body are of great importance. The method of choice is fibre-optic bronchoscopy, the capabilities of which cannot be overestimated at present; whilst, until relatively recently, the removal of foreign bodies was the preserve of rigid bronchoscopy under general anaesthesia, flexible endoscopes—which allow procedures to be carried out under local anaesthesia, feature instrumental channels of varying diameters and offer a diverse range of forceps—are now a worthy alternative in the management of foreign bodies in the airways.

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