AN UNUSUAL FOREIGN BODY BRONCHUS (OPEN SAFETY PIN)

Muhammad Ali, Sohail Aslam, Farhan Ahmed Majeed, Muhammad Ashfaq

Combined Military Hospital Quetta

INTRODUCTION

Foreign body airway still remains a diagnostic and therapeutic challenge despite significant advances in first aid and endoscopic technology. Before the advent of bronchoscopy, the mortality rate from aspiration of foreign body was approximately 50% [1]. However introduction of rod lens telescope has greatly improved visualization and illumination for removal of foreign bodies. Moreover advances in anaesthetic agents and techniques have provided an additional advantage. Most victims of foreign body aspiration are older infants and toddlers. Diagnostic workup of foreign body aspiration includes a definitive history and comprehensive radiological investigations. Treatment mostly aims at removal of foreign body and avoidance of life threatening complications.

CASE REPORT

A 14 year girl accidentally inhaled an open safety pin, while she was pining the clothes. She suddenly developed a severe bout of cough and a choking sensation in her throat which settled in few hours. Her chest X-ray was done immediately which revealed an open safety pin in the right main bronchus with its pointed end facing upwards. Bronchoscopy was attempted in a civil hospital but the pin could not be removed. Subsequently, she was boneset to our hospital for management. Patient was haemodynamically stable but was anxious with inspiratory wheeze on the right side of chest. Repeat chest X-ray PA (figure) revealed similar findings. Bronchoscopy was done with a rigid bronchoscope under antibiotic and steroid cover. The bronchoscopy revealed an open safety pin in right main bronchus with pointed end of pin piercing the bronchial wall. The pointed end of safety pin was addressed first by grasping forceps (as Clerf-Arrowsmith safety pin closing forceps is not available) and its impaction from the wall was drawn out very slowly. The pointed tip was then brought inside the bronschoscope followed by non pointed end of the safety pin. The procedure of safety pin removal was completed successfully without any tissue injury. Post-operatively patient recovered smoothly and was discharged after 48 hours.

DISCUSSION

Foreign body aspiration is a very serious, often a life threatening condition. According to survey it is the 5th leading cause of death in the United States and Hawaii for all age groups [2].

Among children younger than 15 years, toddlers seem to be the most vulnerable for foreign body aspiration with peak age of 1-3 years [3].

The diagnosis and treatment of an aspirated foreign body depends upon the

Figure: X-ray chest revealed an open safety pin in right main bronchus.

Correspondence: Major Muhammad Ali, ENT Department, Combined Military Hospital Quetta.

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clinical phase on presentation. Plain X-ray chest remains the initial imaging modality. It has been reported that imaging studies have a sensitivity of 73% and a specificity of 45% though upto 20% of the patients will have a negative history and a negative radiological evaluation [4]. Similarly CT-scan chest can be done if foreign body is not detected on a plain radiograph.

However patient with a definitive history of foreign body aspiration, even with a normal physical examination and radiographic findings, must undergo bronchoscopic investigation to avoid life-threatening pulmonary complications [5].

Mostly rigid bronchoscopy is indicated for foreign body removal using appropriate forceps or catheters being a potentially safe and effective procedure [4].

Safety pins are not commonly aspirated objects and account for less than 3% of all foreign bodies found in tracheobronchial tree, but the incidence has increased in the recent years with increasing use of safety pins for securing turbans (head scarves) in young women of Muslim population [6]. Most of the safety pins can be removed using a bronchoscope, with low morbidity and mortality.

Recently, use of wire with a magnetic tip fitting into the working channel of a rigid bronchoscope has been successfully used for removal of metallic (safety pins, needles) or ferromagnetic foreign bodies from tracheobronchial tree [7].

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