EXTRACTION OF A GLOBULAR, HARD, SLIPPERY FOREIGN BODY INHALED IN THE BRONCHIAL TREE BY POSTURAL DISLODGMENT AND DIRECT LARYNGOSCOPY

A Case Report

BY

F. NEEMATALLAH AND H. NASSAR

Department of Anaesthetics, Faculty of Medicine, Alexandria, Egypt

SUMMARY

The classical rule of extracting the foreign bodies, inhaled in the tracheobronchial tract, by bronchoscopy may not be strictly applicable to globular, hard, smooth-surfaced foreign bodies. A technique applying postural dislodgment of these slippery foreign bodies in the trachea and their extraction by direct laryngoscopy is described.

CASE REPORT

A child aged 8 years was admitted to the thoracic surgery unit because of aspiration of a foreign body. A chest radiograph showed a rounded shadow in the right main bronchus (fig. 1). Attempted bronchoscopy under general anaesthesia failed to extract the foreign body because it was slippery. Three days later, the patient developed fever, dyspnoea and cyanosis. Atelectasis of the left lung was diagnosed. The chest radiograph showed the foreign body impacted in the left lower lobe bronchus with atelectasis of this lobe (fig. 2). A chest radiograph taken five days later showed the foreign body sited in the right main bronchus (fig. 3). Under general anaesthesia using thiopentone and suxamethonium, followed by artificial respiration using oxygen, a second attempt was made to extract the foreign body by bronchoscopy. This attempt, made two weeks after admission, also failed although various types of foreign body extraction forceps were used. No mucosal reaction or stenosis was found in the blocked bronchus. The patient was then put in the Trendelenburg position and the chest was vibrated. The lungs were inflated with oxygen and external chest compression applied. Laryngoscopy was done by the anaesthetist and the foreign body, dislodged and lying in the trachea, was removed by a ureteric stone forceps. The foreign body proved to be a rosary bead. The chest radiograph taken after extraction of the foreign body showed clear expanded lungs (fig. 4). The child was discharged from the hospital in perfect condition.

This case report is illustrative of three more which were successfully managed by the method described.

DISCUSSION

Aspiration of foreign bodies in the air passages is not uncommon especially in children (Jackson and Jackson, 1955). The right bronchus is more frequently entered than the left. The site of lodgment in the bronchus is often temporary because the foreign body may change its position or it may shift to a new location in the same lung or even in the other lung. This shift may be spontaneous or may follow attempt at extraction. In the case described, the foreign body was initially in the right bronchus but it then shifted to the left bronchus probably due to the attempt at bronchoscopic extraction. Later, this foreign body shifted spontaneously and occupied a new site in the right bronchus. This tendency of the foreign body to move from one site to another site is rare but more predominant in case of globular, hard, smooth-surfaced objects. This is because such objects are not irritant to the bronchial mucosa and are less liable to cause local reaction which may fix the foreign body. The case reported is the only one with a mobile foreign body met with in our thoracic unit.

Foreign bodies should be removed soon after the site of lodgment in the tracheobronchial tree has been ascertained. Although foreign bodies in this situation are usually removed by bronchoscopic, this procedure may fail in the case of globular, hard, smooth-surfaced foreign bodies. This occurs in spite of application of various foreign body extraction forceps. This happened during attempt at bronchoscopic extraction of the rosary bead in the reported case. Extraction of such objects is better done by the technique described before attempting bronchoscopic extraction. This consists of postural dislodgment of the mobile foreign body from the bronchus into the trachea in the subglottic region. There, the foreign
**FIG. 1**
The foreign body sited in the right main bronchus.

**FIG. 2**
The foreign body impacted in the left lower lobe bronchus causing atelectasis of the lower lobe.

**FIG. 3**
The foreign body in the right main bronchus after its shift from the left side.

**FIG. 4**
Expanded clear lungs after extraction of the foreign body.
body can be easily extracted by a ureteric stone forceps or a similar forceps under laryngoscopy. This manoeuvre can be carried out under local analgesia, general anaesthesia or without anaesthesia, as in infants and very young children (Anderson, 1959).

Avoidance of trauma and adoption of strict aseptic technique during laryngoscopy will help to prevent the occurrence of subglottic oedema which is more prone to occur if prolonged clumsy attempts are tried to extract these slippery foreign bodies by bronchoscopy. In addition, it is more difficult to maintain satisfactory oxygenation with bronchoscopy than with laryngoscopy. The procedure, being a short one and not requiring a long period of apnoea, can be carried out safely after a preliminary oxygenation.

REFERENCES