Foreign Body Removal

Hojoong Kim

Division of Pulmonary & Critical Care Medicine, Department of Medicine, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea

Airway foreign body is a problematic clinical situation, needing immediate removal. The etiology of airway foreign body is variable according to the age, living pattern or underlying medical condition. In toddlers, toys, buttons, or nuts are most common causes. However, in old ages, in which gag reflex is reduced, tooth apparatus, fish or chicken bone, or nail could be frequent.

Bronchoscopy is the main stem of airway foreign body removal, but Heimlich maneuver could be used initially for young, cooperative patient. Flexible bronchoscopy is usually performed for airway foreign body removal under local anesthesia. Many kinds of instrument can be used to grasp and remove the foreign body, including biopsy forceps, grasping forceps, rat-tooth forceps, snares, stone baskets and balloons. Patient’s cooperation is the essential and adequate sedation should be used to relieve pain and anxiety. In addition, bronchoscopist should pay special attention to pass the vocal cord, where the luminal diameter is narrowest and foreign body is frequently dropped.

Rigid bronchoscopy under general anesthesia should be considered in clinical situations when airway foreign body removal is expected difficult, such as patients with less cooperation, little pulmonary reserves, large size of foreign body and long period of indwelling. Pediatric and adolescent patients usually cannot tolerate the procedure, thus general anesthesia could be safer. In advanced COPD patients, hypoxemia could be life-threatening during the procedure. If the shorter diameter of the foreign body is larger than 1 cm, it is usually hard to pass the vocal cord under local anesthesia. And if the foreign body was aspirated more than 2 weeks before the procedure, there should be granulation tissues around the foreign body, which make simple removal impossible.

In summary, airway foreign body removal is not a simple procedure, but can be performed successfully with the adequate selection of removal techniques and ample precautions, and performed by experienced bronchoscopist.