

Fogarty Balloon Catheter: A Technical Aid in the Removal of Tracheo-Bronchial Foreign Bodies*

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Inhalation of foreign bodies in children is a very serious and sometimes fatal problem. A clear history is itself an indication for bronchoscopic examination.¹ Some of the foreign bodies can not be grasped by bronchoscopic forceps and these patients are subjected to thoracotomy and bronchotomy for the extraction of these foreign bodies. Foreign bodies like beads are sometimes not removable by the usual bronchoscopic forceps.² We have used Fogarty catheter in a case of bead inhalation in our clinic. This is the only instance where the foreign body was removed by a Fogarty catheter in our wide clinical experience with over 500 cases of foreign bodies in the airways.²

Case Presentation

İ. A. (file no: 841181), 7 year-old boy was referred to our clinic due to inhalation of a bead 2 days ago. He had developed respiratory distress after the aspiration of the foreign body. Chest X-ray did not show any radio-opaque foreign body. He was subjected to bronchoscopic examination.

A bead was seen in the tracheal lumen, moving to and fro during respiration. It could not be grasped by usual bronchoscopic forceps and it was pushed to the right main bronchus. A thin Fogarty catheter was

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passed through the bronchoscope and also through the hole in the bead. The balloon was inflated and foreign body was removed with the withdrawal of the bronchoscope and Fogarty catheter simultaneously (Figure 1). Post-bronchoscopic course of the patient was uneventful.

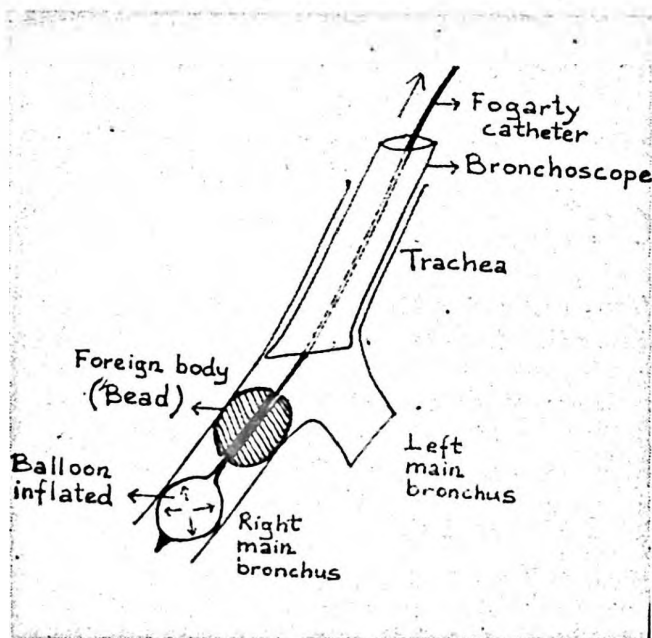


Figure 1

Discussion

Balloon catheters (Foley and Fogarty catheters) have been used for the removal of tracheo-bronchial and esophageal blunt foreign bodies.^{3, 4, 5, 6, 7} The catheter is passed through the endoscope and inflated beyond the foreign body. The catheter and endoscope are then withdrawn as a unit. Fogarty balloon catheter, designed originally for the removal of intravascular blood clots in 1963,⁸ has also been used for the removal of stones in the biliary ductus, stones in the ureter and salivary calculus.⁹ Fogarty catheter is more suitable than the Foley catheter in the extraction of tracheobronchial foreign bodies because of its hardness and thinness. Balloon catheters have been found dangerous by some authors in the removal of esophageal foreign bodies, because the foreign body may lodge across the epiglottis at the time of withdrawal of the catheter, and cause asphyxia.⁶ Fogarty catheter is safe for the extraction of foreign bodies having a hole through their corpus like beads. The catheter can be passed through the hole of the bead and

balloon is inflated. No dislodgement of the foreign body occurs with this technique during withdrawal of the bronchoscope and the catheter as a unit. The hole in the corpus of the bead or in any other similar foreign body should be large enough to pass the Fogarty catheter through it in order to apply this technique.

Summary

Fogarty balloon catheter, originally designed for the removal of intravascular blood clots, has been found useful also in the extraction of stones in the biliary ductus, stones in the ureter, salivary calculus and blunt esophageal and tracheo-bronchial foreign bodies. Some of the blunt spheric foreign bodies like beads in the tracheobronchial tree can sometimes not be grasped by the usual bronchoscopic forceps and these patients are subjected to thoracotomy and bronchotomy for the removal of these bodies. Foreign bodies like beads have a hole in their corpus through which a Fogarty catheter can be passed and inflated beyond them. Simultaneous withdrawal of the bronchoscope and catheter results in safe removal of these kinds of foreign bodies. Such a case was presented in this paper.

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