

Pediatric airway foreign bodies: Development and usage results of foreign-body grasping forceps

Top Author: **Endoh Makoto**

*Department of Surgery II, Faculty of Medicine, Yamagata University
Japan*

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【Background】 Although a foreign body in the airway of children constitutes an emergency, available therapeutic tools are insufficient and treatment can be difficult. Here we examined our pre- and intraoperative modifications and evaluated the treatment results.

【Methods】 The subjects included 24 children (13 boys, 11 girls; median, 18 [range, 9-60] months) treated for airway foreign bodies from January 1994 to October 2013. We examined retrospectively the preoperative diagnoses, anesthesia and surgical methods.

【Results】 The foreign body was a bean in 21 cases, a chestnut, dental prosthesis and a bead respectively. General anesthesia was used in all cases, and the airway was maintained with a laryngeal mask whenever a flexible endoscope was used. The bronchoscopes were from the BF-p series (outer diameter, 2.8-5.3 mm; Olympus Medical Science Sales, Tokyo, Japan). The mean operation time was 51 ± 32 min. Grasping forceps were used in 14 cases, basket forceps in 7 cases, and a Fogarty catheter in 2 cases. In July 2003, 3-pronged foreign-body grasping forceps with a 2.0-mm diameter built to be used with a thin bronchoscope were introduced. Of the 16 treated cases, 8 accomplished with the only forceps. The mean operation time was significantly shortened to 38 ± 24 min (range, 7-91 min) compared to the traditional operation time of 82 ± 42 min (range, 23-147 min) ($p=0.01$).

【Conclusions】 Thus, we successfully reduced the operation time by using a novel 3-pronged grasping forceps for the removal of airway foreign bodies.

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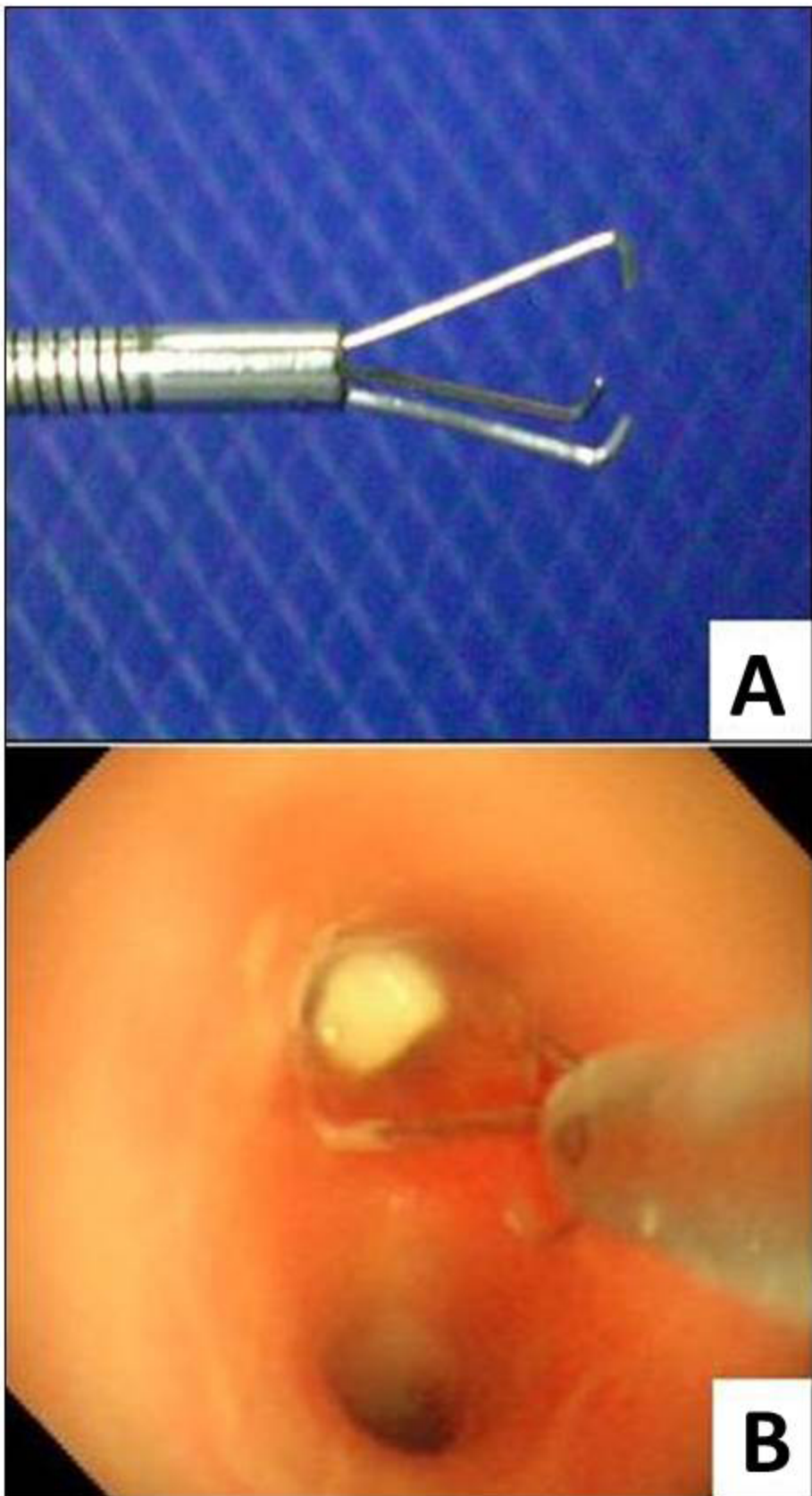


Figure. Three-pronged grasping forceps. A. New type forceps: FG-45D. B. Peanut at the left upper division orifice and new typed 3-pronged grasping forceps via BF-260.