Intraoperative Ultrasound for Localization and Removal of an Oropharyngeal Wire Grill-brush Bristle

Jennifer A. Brooks, MD, MPH, Mallory McKeon, BA, Jeanne S. Chow, MD, Karen Watters, MB, BCH, BAO, MPH

Introduction
The purpose of this study is to describe the utilization of intraoperative ultrasound for a case in which a child accidentally ingested a wire grill-brush bristle that became lodged in the pharyngeal space.

Ultrasound-guided removal of an oropharyngeal foreign body:
Preoperative and intraoperative ultrasound were utilized in order to localize a wire grill-brush bristle embedded in the left tonsillar fossa of our pediatric patient. The foreign body was successfully removed from the child’s left tonsillar fossa, after left-sided tonsillectomy was performed for access (Image A).

Case Report
• A 12 year old otherwise healthy female presented to the ER with concern for ingested wire grill-brush bristle after a family barbecue.
• Patient vital signs within normal limits.
• X-ray imaging revealed radiopaque foreign body (FB) in left pharyngeal space (Image I).
• CT imaging further localized to left hypopharyngeal space (Image II).
• Preoperative and intraoperative ultrasound (US) were obtained, to aid in further localization and guide removal of object during procedure (Image III).
• Direct laryngoscopy and bronchoscopy with no evidence of obvious FB.
• Wire grill-brush bristle successfully removed from deep within patient’s left tonsillar fossa, after left-sided tonsillectomy performed for access (Image A).
• The child had no post-operative complications.

Discussion
• Intraoperative US is rarely used for FB removal in the aerodigestive tract.
• No prior reports describe the use of US for removal of a wire grill-brush bristle.
• Intraoperative US provides a safe, real-time imaging method to aid in FB removal.
• This method may reduce radiation exposure associated with other imaging modalities, and potentially shorten operative times.
• Collaboration with radiologists and ultrasonographers is key in allowing efficient intraoperative imaging and FB removal.

REFERENCES


Image I. Preoperative XR soft tissue neck, showing a linear radiopaque density measuring approximately 9 mm is seen projecting over the angle of the mandible in the lateral view (arrow).

Image II. CT neck without contrast, with axial view demonstrating linear, hyperattenuating foreign body that measures 15 mm in length in the region of the left palatine tonsil (arrow). Minor low-attenuation change is observed surrounding the posterior aspect of the foreign body consistent with edema.

Image III. Intraoperative left neck ultrasound. Metallic foreign body was imaged in real-time, before and after removal. The foreign body was closely related to the patients left tonsil, which was removed, and then the foreign body was found deep to it.

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