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Chipped Rail Gear of a Lightwand Device: A Potential Complication of Tracheal Intubation

To the Editor:—A 70-yr-old woman undergoing back surgery was intubated without difficulty using the light-guided Trachlight lightwand device (Laerdal Medical, Stavanger, Norway), which we use for routine intubations in our operating room. She was then placed in a prone position, with her head held with a ProneView® Protective Helmet System (Dupaco, Oceanside, CA). A gastric tube was placed transorally. At the end of the operation, we found a white, 2-mm³, plastic fragment on the tip of her tongue, which the anesthesiologist (K.H.) set aside and kept pending clarification of its origin. At the conclusion of the operation, the patient was extubated uneventfully and was transferred to a general ward. Nearly 1 h later, the foreign body was identified as being a chipped rail gear from the Trachlight device (fig. 1). Because the radiodensity of the fragment was approximately -80 Hounsfield units, very near that of fat (-120 units), the detection of other fragments by computed tomography scanning seemed highly unlikely, regardless of their possible location. After close observation for 7 days, the patient was discharged from the hospital without apparent complication, and has been followed for 3 months without the development of adverse health events.

The lightwand device is a useful tool for a variety of situations, such as difficult or nasal intubations, in patients with facial or cervical fractures, or for intubations in presence of bleeding in the oral cavity.¹⁻⁴ However, it has also been associated with complications, including heat trauma, and increased rates of sore throat, hoarseness, mucosal bleeding, dental trauma, and malposition of the epiglottis.⁵ The Trachlight is a light and handy instrument made of plastic. Although the manufacturer disallows the reuse of the wand, it has set no time limit on the reuse of the handle. It is recommended that the device be cleaned daily with 70% isopropyl alcohol, while topical anesthetics, lubricants, or any other active ingredient applied to the endotracheal tube and wand should be used with caution. In the current case, the handle had been used in approximately 250 cases over an approximately 8-month period, never with topical anesthetics or lubricants applied to the wand or the body. Upon inspection of 10 other lightwand devices, we found one other chipped rail gear, suggesting the existence of a structural defect. Replacement of the convexity of the gear by a concave design would eliminate the risk of chipping. Having reported this incident to the manufacturer, we hope that improvements will soon be made in the production of the device.

The rail gear fragment probably broke off when the wand was withdrawn from the endotracheal tube. Because we found a single fragment and the rail was missing two teeth, the other fragment might have fallen into the trachea through the endotracheal tube. The patient being fully awake and asymptomatic when we first realized that another fragment was missing, we chose to observe her and abstained from undertaking major investigations, such as tracheal endoscopy or computed tomography.

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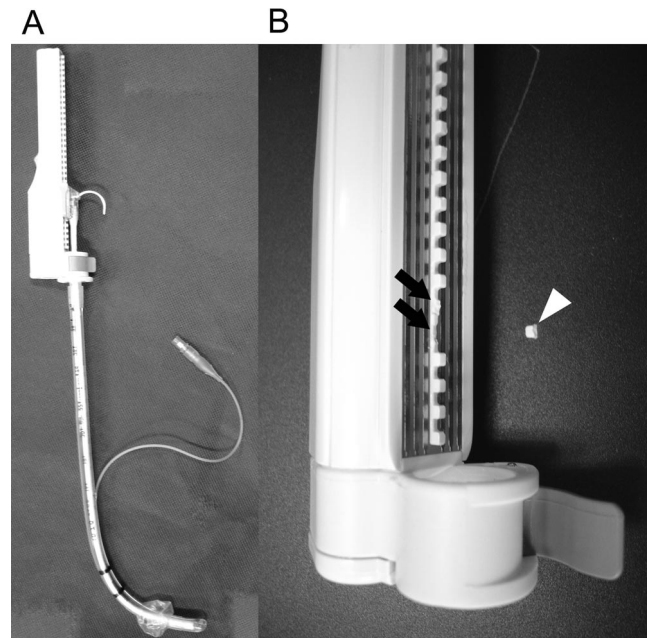


Fig. 1. (A) Trachlight lightwand device (Laerdal Medical, Stavanger, Norway) with endotracheal tube. (B) Trachlight handle and fragmented part of the handle rail gear. Two teeth are missing from the distal handle (double black arrows). The arrowhead points to the retrieved rail gear fragment.

To the best of our knowledge, this is the first report of a potential complication from a rail chipping during the manipulation of a Trachlight intubation device.

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