

Letters to the editor

Preoperative chewing gum and foreign body airway obstruction

**Evaggelia Haftoura¹, Chryssa Pourzitaki^{1,2},
Helena Logotheti¹, Filippia Aroni¹,
and Panagiotis Arambatzis¹**

¹Department of Anesthesiology, Achilopoulos General Hospital, 38100 Volos, Greece

²Department of Pharmacology, Medical School, Aristotle University of Thessaloniki, 54006 Thessaloniki, Greece

To the editor: In the past decade, NPO (*nil per os*) rules for scheduled surgical operations have been under contestation [1]. However, the most recent NPO guidelines do not refer to chewing-gum consumption [2]. Chewing gum reduces thirst and dryness of the mouth and could be beneficial preoperatively if it did cause not occlusion of the endotracheal tube [3]. We report an unusual case of chewing gum adhering to a well-functioning endotracheal tube.

A 65-year-old female patient entered the surgery room for a scheduled laparotomy operation. One day before the operation she had been instructed to take nothing orally after midnight, except for scheduled preanesthesia medication (5-mg diazepam tablet per os). Upon her arrival in the operating

suite, at 08.30 a.m., the patient denied any other intake. After the induction of anesthesia, direct laryngoscopy was performed and the patient's trachea was intubated with a cuffed (7.5-mm) endotracheal tube, placed with the cuff below the level of the vocal cords. It was noted that the oropharynx was free from secretion and foreign bodies. The endotracheal tube was secured at 22 cm. Correct placement of the endotracheal tube was confirmed by capnography and auscultation of breath sounds. Intraoperatively, there were no problems with excessive tachycardia, hypertension, bronchospasm, or regurgitation and pulmonary aspiration. The surgery proceeded uneventfully and ended successfully. After the end of the operation, during the emergence from anesthesia, the endotracheal tube was removed and, unexpectedly, the anesthesiologist observed that there was a chewing-gum mass adherent to the endotracheal tube (Fig. 1).

Upon emergence from anesthesia, the patient claimed that nobody had told her not consume chewing gum and that she had used it to relieve her dry mouth and reduce anxiety. None of the nurses nor the anesthesiologist realized that the patient had been chewing gum preoperatively. The patient stayed in the recovery room for an hour and she did not complain of sore throat, dysphagia, or dysphonia.

While most anesthesiologists, in accordance with American Society of Anesthesiologists (ASA) guidelines, are modifying

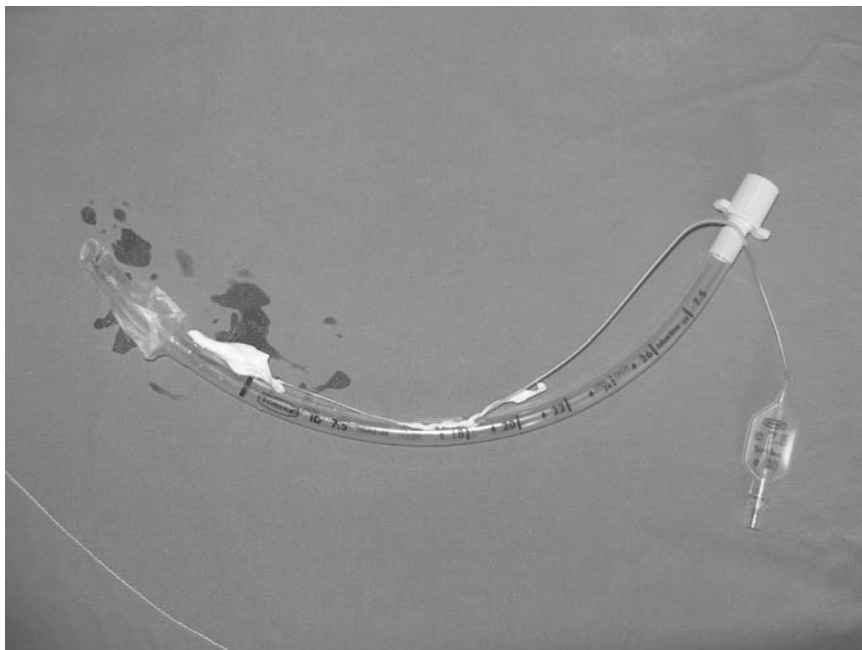


Fig. 1. The original endotracheal tube after extubation, with the attached mass of gum, leaving the cuff intact. Due to its location, the foreign body was not forced into the tracheobronchial tract

their NPO rules [1,2], none of the new guidelines reports the intake of solids. Digestion of apparently innocent solid substances such as chewing gum constitutes a potential risk during anesthesia [4].

In our patient, the foreign body could have become lodged in the trachea or below, producing significant airway obstruction, necessitating additional airway manipulation. However, the mass was attached to the endotracheal tube, leaving the cuff intact, and it was not forced into the tracheobronchial tract.

Great care must be taken to clarify the meaning of changes in preoperative fasting status, to both patients and practitioners. According to Søreide and colleagues [5], only the use of nicotine chewing gum in smokers has an impact on preoperative preparation, because it can serve as an alternative to cigarettes a few hours before surgery. However, the limited use of chewing gum should be included in NPO rules in order to avoid life-threatening events during anesthesia and to provide a patient who is well prepared for anesthesia. In conclusion, the more liberal NPO rules will require specific instruction and education, because patients do not understand their importance.

References

1. Crenshaw JT, Winslow EH. Preoperative fasting: old habits die hard. *Am J Nurs.* 2002;102:36–44.
2. ASA Task Force. Practice guidelines for preoperative fasting and the use of pharmacologic agents to reduce the risk of pulmonary aspiration: application to healthy patients undergoing elective procedures: a report by the American Society of Anesthesiologists Task Force on Preoperative Fasting. *Anesthesiology.* 1999;90:896–905.
3. Shlamovitz GZ, Halpern P. Delayed obstruction of endotracheal tubes by aspirated foreign bodies: report of two cases. *Ann Emerg Med.* 2004;43:630–3.
4. Kradel B, Hackett A, Johnstone R. NPO includes chewing gum. *Anesth Analg.* 1992;74:621.
5. Søreide E, Holst-Larsen H, Veel T, Steen PA. The effects of chewing gum on gastric content prior to induction of general anesthesia. *Anesth Analg.* 1995;80:985–9.

Address correspondence to: C. Pourzitaki

Received: March 7, 2008 / Accepted: July 7, 2008