

---

## Chewing gum, the anaesthesiologist and perioperative checklists

Sir,

Preoperative fasting is imperative prior to administration of anaesthesia, in order to prevent pulmonary aspiration.

We report a case of an accidentally detected chewing gum found on extubation, following surgery. A 70-year-old male, American Society of Anesthesiologists (ASA) physical status 2 was taken up for spine surgery. After a thorough preoperative examination, airway assessment, written, informed consent, fasting status was confirmed, monitors were applied and intravenous access secured with a 20G cannula. Premedication of intravenous fentanyl 2 µg/kg was administered. General anaesthesia was administered using intravenous propofol 2.5 mg/kg, and atracurium 0.5 mg/kg iv. After 3 min of positive pressure ventilation, a 7 mm diameter Portex™ Cuffed endotracheal tube was inserted into the trachea while performing direct laryngoscopy. The oral cavity was unremarkable except

for a few decaying teeth. The surgery proceeded in prone position uneventfully, with anaesthesia maintained on oxygen, air, and sevoflurane. On extubation, the patient's spontaneous attempts to breathe were noticed, and the anaesthesia team prepared for extubation. On suctioning the oral cavity, a piece of white chewing gum emerged from the oral cavity. Figure 1 shows the chewing gum at the opening of the mouth. The anaesthesia team removed the chewing gum, did a thorough examination of the oral cavity for any further gum, administered intravenous neostigmine 0.05 mg/kg and glycopyrrolate 8 µg/kg. On confirming adequate muscle tone and tidal volume, the trachea was extubated and the patient was shifted to the recovery room.

Fasting guidelines are well known.<sup>[1]</sup> However, chewing gum may not be categorised as either food or drink by some patients, and may not always be specified in instructions given to patients about preoperative fasting.<sup>[2]</sup>

Our patient was given clear instructions about fasting and was permitted to chew gum up to 2 h prior to the procedure, in an attempt to allay anxiety and as a nicotine supplement. The ASA has surmised that studies have shown that the mean gastric volume was statistically higher in patients who chewed gum before their procedure (13 ml) versus those who did not



**Figure 1:** Shows chewing gum visible in patient's oral cavity on extubation

(6 ml). However, there was no statistically significant difference in pH values.<sup>[3]</sup> Valencia *et al.* stated that 1 h of gum-chewing had no significant effect on the gastric fluid volume of healthy volunteers, suggesting that it may be safe for healthy subjects to chew gum prior to elective surgery.<sup>[4]</sup> Keeping this in mind, patients are allowed to chew gum in the preoperative period, up to 2 h before. In the case of our patient, it is possible that on direct laryngoscopy the chewing gum might have been missed as it was hidden and stored behind the last molar, or in the gingivobuccal fold hence not clearly visible.

On extubation, the chewing gum emerged when the oral cavity was suctioned, saving the patient from a potential aspiration. A similar case has been noted by Wencke and Ozan regarding a piece of chewing gum being stuck to a laryngeal mask airway on extubation.<sup>[5]</sup>

Cases like this remind us that it is imperative to reconfirm the fasting status of each patient, and in addition reconfirm the chewing of substances like chewing gum. Adding "No chewing gum" as part of the checklist can help reduce incidents like these, which though uncommon, might pose a considerable risk to safety due to the potential of aspiration.

#### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient (s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

#### Financial support and sponsorship

Nil.

#### Conflicts of interest

There are no conflicts of interest.

**Tasneem Dhansura, Dhanwanti Rajwade**

Department of Anesthesiology, Saifee Hospital, Mumbai, Maharashtra, India

#### Address for correspondence:

Dr. Dhanwanti Rajwade,  
23B Woodlands, Peddar Road, Mumbai - 400 026,  
Maharashtra, India.

E-mail: dhanwantirajwade@gmail.com

**Received:** 16<sup>th</sup> May, 2019

**Revision:** 24<sup>th</sup> May, 2019

**Accepted:** 26<sup>th</sup> June, 2019

**Publication:** 08<sup>th</sup> November, 2019

#### REFERENCES

1. 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 an updated report by the American Society of Anesthesiologists Task Force on preoperative fasting and the use of pharmacologic agents to reduce the risk of pulmonary aspiration. *Anesthesiology* 2017;126:376-93.
2. Shanmugam S, Goulding G, Gibbs NM, Taraporewalla K, Culwick M. Chewing gum in the preoperative fasting period: An analysis of de-identified incidents reported to webAIRS. *Anaesth Intensive Care* 2016;44:281-4.
3. American Society of Anesthesiologists (ASA). Chewing gum while fasting before surgery is safe, study finds. *ScienceDaily*. Available from: <http://www.sciencedaily.com/releases/2014/10/141013085953.htm>. [Last cited on 2014 Oct 13].
4. Valencia JA, Cubillos J, Romero D, Amaya W, Moreno J, Ferrer L, *et al.* Chewing gum for 1 h does not change gastric volume in healthy fasting subjects. A prospective observational study. *J Clin Anesth* 2019;56:100-5.
5. Wenke M, Akça O. Chewing gum on a laryngeal mask airway. *Anesthesiology* 2002;97:1647-8.

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

| Access this article online                                                           |                                                                |
|--------------------------------------------------------------------------------------|----------------------------------------------------------------|
| Quick response code                                                                  | Website:<br><a href="http://www.ijaweb.org">www.ijaweb.org</a> |
|  | DOI:<br>10.4103/ija.IJA_387_19                                 |

**How to cite this article:** Dhansura T, Rajwade D. Chewing gum, the anaesthesiologist and perioperative checklists. *Indian J Anaesth* 2019;63:951-2.

© 2019 Indian Journal of Anaesthesia | Published by Wolters Kluwer - Medknow