

## ACCIDENTAL SWALLOWING OF DENTAL PROSTHESIS: CASE REPORT



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### ABSTRACT

**Objective:** to report two clinical cases of swallowing removable dental prostheses. **Observational, cross-sectional, descriptive study. Methods:** These are two case reports of patients living in a city in the state of Maranhão who needed to have a foreign body removed through a surgical procedure in a high-complexity hospital. **Results:** It was possible to observe removable partial dentures with inadequate design and retention. The inadequate design of dental prostheses is an important risk factor for accidental swallowing. Access to this type of service in Brazil is still limited, which results in a high demand of individuals with accumulated need for prosthetic rehabilitation and little supply of public health services in this area. This fact contributes to the search for low-cost services, which can impact the quality of the prostheses manufactured. **Conclusion:** However, it is important to raise awareness among both the professionals who manufacture prostheses and the patients that the use of removable partial dentures with insufficient design and retention should not be performed.

**Keywords:** Removable Partial Denture. Swallowing. Hospital Dental Team.

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## INTRODUCTION

Dental prostheses are devices responsible for replacing missing teeth. They are important for phonetics, aesthetics and chewing. By restoring the balance of the masticatory system, they improve the patient's quality of life. Access to this type of service in Brazil is still limited, which results in a high demand from individuals with accumulated need for prosthetic rehabilitation and a low supply of public health services in this area (Hoisel, 2016). This fact contributes to the search for low-cost services, which can impact the quality of the prostheses manufactured. Hoisel and Figueiredo (2016) found in their study a significant inequality in access to dental services. The severity of the epidemiological situation showed the need for an effective public policy that meets the needs of this population.

Swallowing and/or aspiration of dental objects is frequently reported in the literature (Sá-Lima et al. 2005). Some factors may increase this risk, such as inadequate design of dentures and the age of the patient using them. Elderly patients with senile dementia also tend to ingest foreign bodies (Moreira, 1981). Due to complications in the gastrointestinal tract, surgical intervention is necessary in most cases. It is the responsibility of the prosthetic dentist to guide his patients on the correct use of dentures and to alert the class about the importance of adequate planning, with good adaptation, configuration and retention (Sá-Lima et al. 2005). One of the great challenges resulting from swallowing dentures is maintaining the patient's airway (Postiga et al.). However, laceration of the gastric mucosa, bleeding and pain may also occur. Depending on the route, the object may be ingested or aspirated, and may then require surgical intervention if it is not expelled naturally (Ferreira et al., 2012).

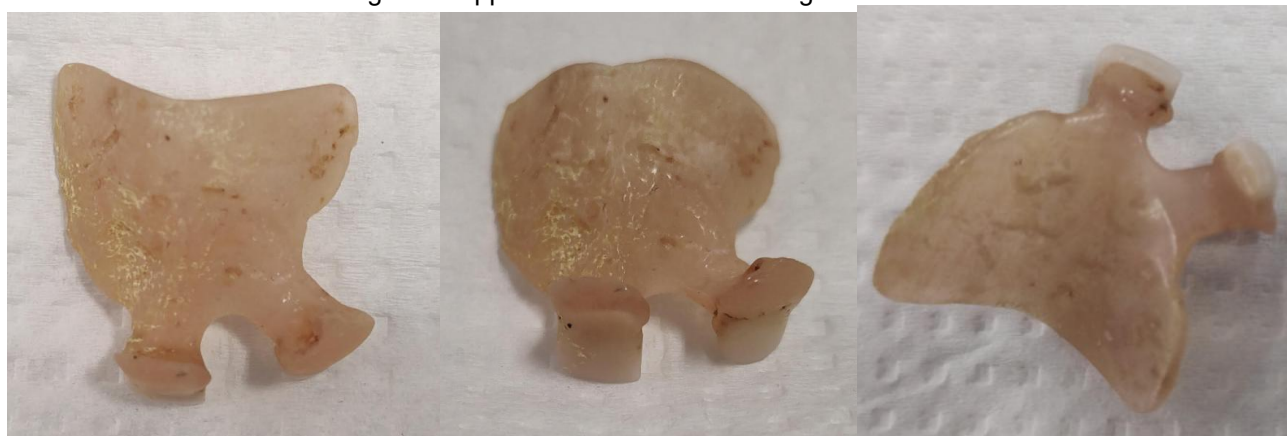
## METHODS

Este estudo trata-se de um relato de dois casos clínicos de pacientes que foram atendidos no ano de 2023. Os dados foram removidos do prontuário dos pacientes. Foram coletados dados das evoluções multiprofissionais e exames de imagem presentes no sistema bem como imagem das próteses dentárias após sua remoção. A análise dos dados foi realizada pela observação dos prontuários eletrônicos realizado no Hospital Universitário da Universidade Federal do Maranhão (HUUFMA) na Unidade de Terapia Intensiva do Adulto.

## CASE REPORT 1

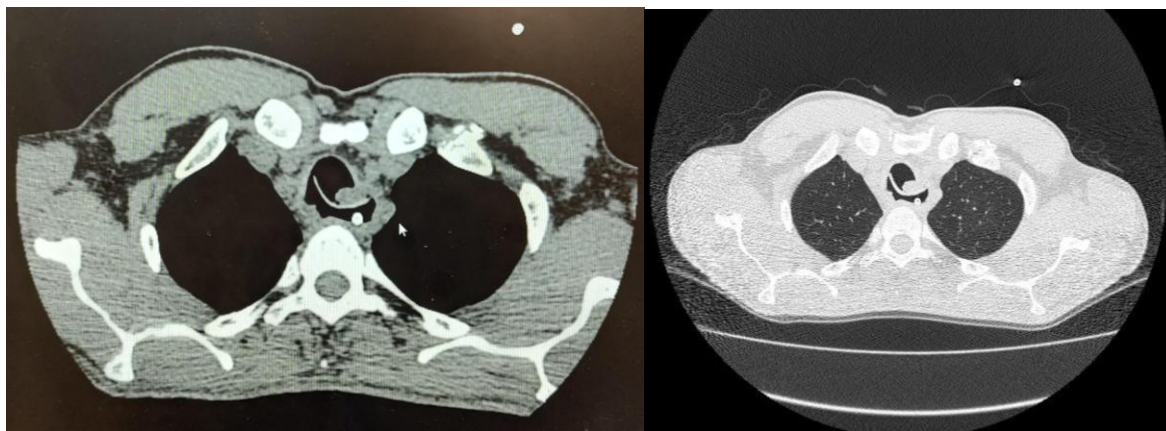
A 49-year-old male patient, resident and domiciled in a city in the interior of the state of Maranhão, was referred from an emergency hospital to a high-complexity hospital (University Hospital of the Federal University of Maranhão) for surgical removal of a dental prosthesis that had been accidentally swallowed during speech approximately 3 months ago (Figure 1). He developed oropharyngeal pain and dysphagia of progressive intensity. He had intermittent episodes of nausea and vomiting. A CT scan of the chest and neck revealed a 3-cm hyperdense body located in the trachea near the nostril in contact with the esophagus (Figure 2). During hospitalization in the Intensive Care Unit due to postoperative period for removal of the prosthesis, the patient was on spontaneous ventilation, lucid, oriented, Glasgow 15. During the intraoral physical examination, it was observed that the patient was partially edentulous in the upper and lower teeth, with missing teeth 18, 17, 28, 38, 36, 46, 48. Extensive caries was observed in tooth 16 with indication for extraction, teeth 12 (M and D) and 22 (M) have chronic dental caries. Tooth 21 has grade 1 mobility. Teeth present and without mobility 15, 14, 34, 33, 32, 31, 41, 42, 43. Residual roots in the region of 13, 23, 24, 25, 37, 35, 44 and 47. To remove the foreign body, surgical correction of the tracheoesophageal fistula was necessary.

Figure 1: Appearance of RPD after surgical removal



Source: Authors

Figure 2: Computed tomography of the chest and neck.



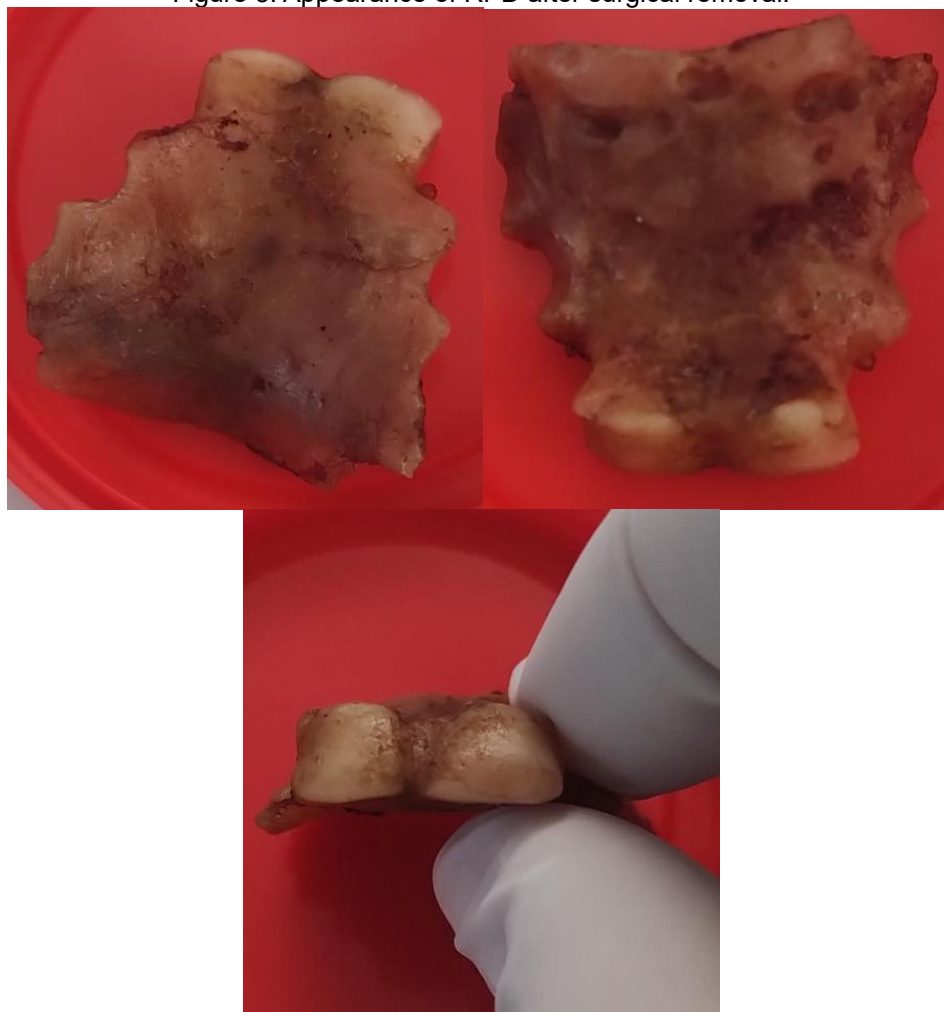
Source: Authors

## CASE REPORT 2

A 47-year-old female patient, resident and domiciled in a city in the interior of the state of Maranhão, with a history of swallowing a removable partial denture for 3 years, complaining of odynophagia, a feeling of being stuck, coughing after swallowing, vomiting and chest pain (Figure 3). She also reports weight loss. She reports that at the beginning of the condition she had gone to the emergency room due to pain, but the presence of a foreign body was not detected. Glasgow patient 15, an upper digestive endoscopy revealed intense/erosive esophagitis and a foreign body embedded in the middle segment - extraction was not possible (Figure 4). Chest CT scan revealed an elongated hyperdense image in the proximal third of the esophagus measuring 2.4 x 0.5 cm, with a slight reduction in the amplitude of the adjacent luminal caliber, with upstream ectasia, with the appearance of a foreign body, and thickening of the walls of the adjacent esophagus (Figure 5). To remove the foreign body, it was necessary to perform an esophagostomy, primary esophageal suture with placement of a vacuum drain by endoscopy in the esophagus + creation of a gastrostomy. During the dental evaluation in the Intensive Care Unit bed of the University Hospital of the Federal University of Maranhão and in the postoperative period, the patient was lucid, oriented, drowsy, and had a symmetrical face. She was breathing spontaneously and using a 1L O<sub>2</sub> nasal catheter. Her heart rate was 75 BPM, blood pressure was 116 x 82 mmHg, oxygen saturation was 92%, and respiratory rate was 26 IRPM. During the intraoral physical examination, the patient was partially edentulous in the upper and lower jaw (teeth 18, 17, 13, 22, 23, 24, 25, 27, 28, 35, 34, 33, 32, 31, 41, 42, 43, and 45), using an upper removable partial denture with unsatisfactory retention and no clasps. The patient had a history of swallowing while drinking water for 3 years, developing

chest pain that radiated to the back. Two examinations were performed that did not identify the presence of the prosthesis. The patient was advised to discontinue use of the current prosthesis because it also did not present correct retention and design.

Figure 3: Appearance of RPD after surgical removal.



Source: Authors

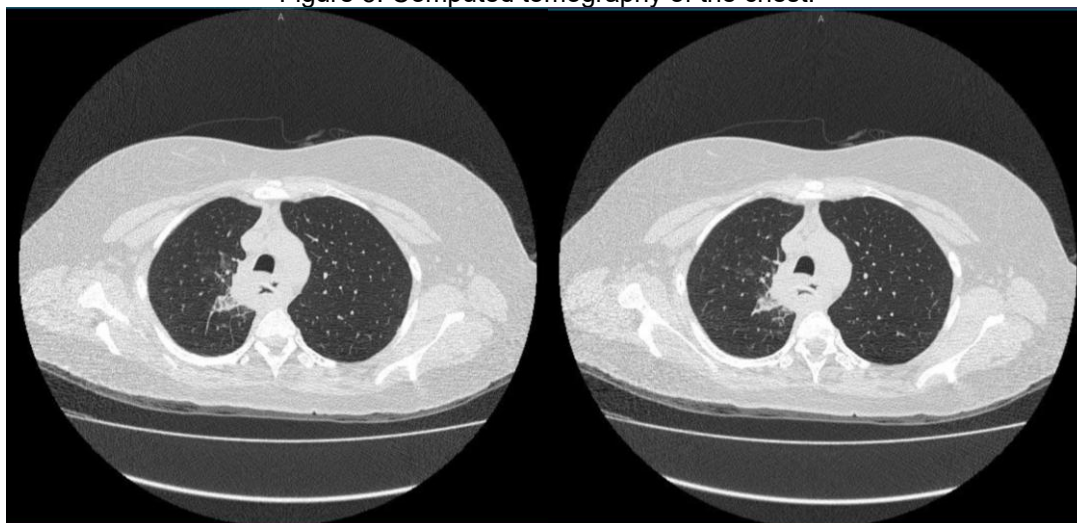
Figure 4: Upper gastrointestinal endoscopy with Olympus GIF 140 device demonstrating the presence of a foreign body in the mid-esophagus.



Source: Authors



Figure 5: Computed tomography of the chest.



Source: Authors

### **FINAL CONSIDERATIONS**

Inadequate design of dental prostheses is an important risk factor for accidental swallowing. Access to this type of service in Brazil is still limited, which results in a high demand from individuals with accumulated need for prosthetic rehabilitation and a low supply of public health services in this area. This fact contributes to the search for low-cost services, which can impact the quality of the prostheses manufactured. However, it is important to raise awareness among both the professionals who manufacture prostheses and the patients that the use of removable partial dentures with insufficient design and retention should not be performed.

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