

### Introduction

- Foreign body ingestion during dental procedures is a rare but recognized complication.
- Iatrogenic accidents during these procedures can occur regardless of all precautions taken. These foreign objects can be of various sizes and shapes and can be either sharp or blunt (see Figure 1).
- Dealing with these ingestions often requires medical evaluation by multiple departments (Emergency Department, Internal Medicine Gastroenterology/ENT, etc.)
- Existing literature provides little in the way of specifically guiding management of dental foreign body ingestion (DFBI) in the hospital setting.
- Our aim is to develop a multidisciplinary protocol to help both minimize occurrence of DFBI and optimize its management.

### Objectives

- Minimizing occurrence of DFBI
- Optimizing management of DFBI via improved communication, maximizing safety, and providing education on clinical management of DFBI

### Methods and Materials

- Retrospective review of DFBI cases at a tertiary care center conducted between 2015-2022.
- A quality improvement intervention consisting of 2 protocols was initiated in 6/2019 involving unique collaboration between Gastroenterology (GI) and College of Dentistry (CoD) teams.
- These protocols were implemented and disseminated among both teams with the goal of improving communication, maximizing safety, and providing education on clinical management of DFBI.

Figure 1. Examples of Commonly Ingested Dental Foreign Bodies.



- CoD protocol was multifaceted and included determining indications for ED referral after DFBI, maintaining NPO status and upright position, accompanying patients with dental providers and providing descriptions/samples of the swallowed item.
- GI protocol defined the response to the DFBI consultation, parameters for endoscopy, and how to conservatively monitor the status of patients without indication for endoscopy.

### Results

- A total of 27 patients were included, with 20 cases identified prior to the intervention (over a span of 53 months) and only 7 occurring after the intervention (spanning 32 months).
- Table 1 provides a summary of clinical course before and after the intervention.
- 7 patients (35%) were admitted to the hospital pre-intervention, and just 1 (14%) was admitted after.
- Specialists were consulted on 9 cases prior (45%) and 1 case post (14%).
- Endoscopies were performed in 4 patients, 3 pre (15%) and 1 post (14%)
- The complication rate was 0% before and after the intervention

Table 1. Clinical Course of DFBI Before And After Intervention.

	Pre-Intervention (20)	Post-Intervention (7)	P-Value
X-ray (26)	19 (95%)	7 (100%)	
CT Scan (3)	3 (15%)	0	
Admitted (8)	7 (35%)	1 (14%)	.30
Specialty Consult (10)	9 (45%)	1 (14%)	.15
Object Removal (3)	2 (10%)	1 (14%)	.76
Endoscopy Performed (4)	3 (15%)	1 (14%)	.96

### Discussion

- A targeted intervention implemented to improve outcomes following DFBI led to a 42% decrease in incidence of overall cases adjusted over time, developed a clear path of action, and streamlined the process for improved patient safety.
- Further larger cohort studies would be beneficial to further assess the impact of the intervention.
- Our study provides preliminary guidance on the management of DFBI.

### References

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