

Accidental Ingestion of an Untethered Instrument During Implant Surgery

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During dental treatment, patients can swallow or inhale a foreign object as a result of several patient- and clinician-related factors; however, several methods can be used to prevent this complication. A 65-year-old man was referred to the Oral Implantology Clinic at the University of Amsterdam (ACTA) for a fixed prosthesis in the maxilla. While placing the implants, the screwdriver accidentally slipped from the fingers of the surgeon and was ingested by the patient. Since the difference between swallowing and inhaling cannot be accurately diagnosed, patient follow-up is advisable. *Int J Prosthodont* 2014;27:277–278. doi: 10.11607/ijp.3546

During any dental treatment, a patient can swallow or inhale a foreign object, eg, impression material, endodontic instruments, burs, posts, teeth, orthodontic brackets, implant components, or restorations. Patient-related factors are the amount of saliva, age, medical and mental condition, use of local anesthesia, altered states of consciousness associated with intravenous sedation, difficulty of access, and compromised direct view.^{1–4} Preventative methods can include: tethering small instruments with a ligature (Fig 1), using a rubber dam or 4 × 4 gauze as a protective barrier in the oral cavity distal to the working area,

and adjusting the position of the patient.^{1–3} During a surgical procedure to insert dental implants, a medium-sized screwdriver (Straumann) was ingested by the patient in this case report. The need to monitor the patient following such an event is explained.

Case Report

A 65-year-old male patient was referred to the Oral Implantology Clinic at the University of Amsterdam (ACTA) for a fixed prosthesis in the maxilla (Fig 2). During the surgical procedure to insert the implants, the screwdriver accidentally slipped from the fingers of the surgeon and was ingested by the patient. Since the patient did not cough, the surgeon assumed that the instrument had not been inhaled by the patient. The patient was advised to check his excrements for a week but was not able to retrieve the screwdriver. The patient was subsequently referred to the Department of Radiology for a bowel radiograph (Fig 3a) to locate the screwdriver. The radiologist's report indicated that the foreign object was located behind the ileocecal valve and that there were no signs of perforation of the intestines. Five days later, a new bowel radiograph was taken (Fig 3b), and the foreign object was still in the same location. The patient was referred to the hospital for endoscopic treatment during which the foreign object was not found, and it was assumed that the screwdriver had left the patient's body without the patient's knowledge. A control bowel radiograph was taken, on which the foreign object was no longer visible (Fig 3c).

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Fig 1 A tethered instrument.



Fig 2 Orthopantomogram at intake.



Fig 3a Bowel radiograph after 3 weeks.



Fig 3b Bowel radiograph after 3 weeks and 5 days.



Fig 3c Frontal radiograph after endoscopic treatment.

Discussion

Aspiration or swallowing of an object can be accompanied by coughing, but this is not always a predictable reaction. It is expected that the foreign object will leave the body in the natural way since the majority (80% to 90%) of foreign objects that reach the gastrointestinal tract will pass spontaneously, 10% to 20% will require nonsurgical intervention, and 1% or less will require surgery.⁵

Conclusion

The patient should be referred to the hospital immediately since the consequences of inhaling or swallowing an object can range from perforation of the esophagus, colon, appendix, larynx, or pharynx to death due to asphyxia. Since there is no consensus in the follow-up treatment of patients after these events, there is a need for clear guidelines for dental practitioners.

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