PHOTO QUIZ FROM URGENT CARE

Ingestion of Dental Implant

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CASE HISTORY

A 55-year-old male presents with a complaint of left-sided flank pain that started four days prior but is worsening on the day of presentation. He accidentally swallowed a dental implant and its filling pin two weeks prior while eating dinner. He tried vomiting the dental implant back up not long after swallowing it without success. He has been checking his stools but has not noticed any foreign bodies so far.

He describes the flank pain as a dull throbbing ache without radiation. He denies any vomiting, abdominal pain, constipation, diarrhea, hematochezia, or melena.

Upon physical exam, his abdomen is flat, soft, and nontender without rigidity or guarding. His bowel sounds are normal, and he has no costovertebral angle (CVA) tenderness.

QUESTIONS

1. Which imaging modalities can be used to identify this foreign body?
2. What is the next step after identifying the foreign body on imaging?
3. Is this an emergent or non-emergent situation?
4. What complications can occur if this foreign body does not pass through?

ANSWERS

1. This type of foreign body can be seen both on X-ray and computed tomography (CT). Generally, posteroanterior/lateral chest X-rays and abdominal X-rays (see Fig. 1) are utilized to determine the location of a foreign body.
2. The next step after identifying where the foreign body is on imaging is often a surgical consult. Usually, the foreign body passes asymptomatically, but it is prudent to collaborate with the surgical team to determine if and when surgical management is necessary versus when conservative management can be utilized.
3. Whether the situation is emergent or non-emergent depends on a few factors: length of time since ingestion, whether there is movement through the intestines, and the presence of pain or other symptoms. If the patient is asymptomatic and weekly X-rays demonstrate the foreign body is moving through the intestine appropriately, this may not be an emergency — that is, the foreign body is likely to pass without complications or intervention. If the patient presents with an ingested foreign body that is causing symptoms of pain, vomiting, obstruction, bleeding, etc., or if the foreign body has not passed through after two to three weeks, emergency interventions may be warranted.
4. Intestinal perforation, bleeding, sepsis, compression necrosis, or obstruction are the most likely complications of an ingested foreign body, especially if the object is larger than 5 cm in diameter or if the object has a sharp edge.

DISCUSSION

Ingestion of a foreign body can occur in adults, such as in this patient who swallowed a dental object while eating. It may also occur during dental implantation or due to impairment as a result of alcoholism. Predisposition may be due to strictures, malignancy, or esophageal rings.[1] Clinicians should consider that ingestion of a foreign body may be due to secondary objectives such as to avoid incarceration or as a suicidal attempt.[2]

The most ingested foreign bodies in adults are fish bones, other bones, and dental devices.[1] Fortunately, most foreign bodies, especially dental implants, can be seen on X-ray, which allows for outpatient evaluation and management. However, objects such as thin bones, plastic, glass, and wood may not be readily seen.[3]

CT scan is also utilized for clearer evaluation of the location of the foreign body as well as assessing for complications.[3] As long as the patient is asymptomatic, weekly X-rays can be performed in the outpatient

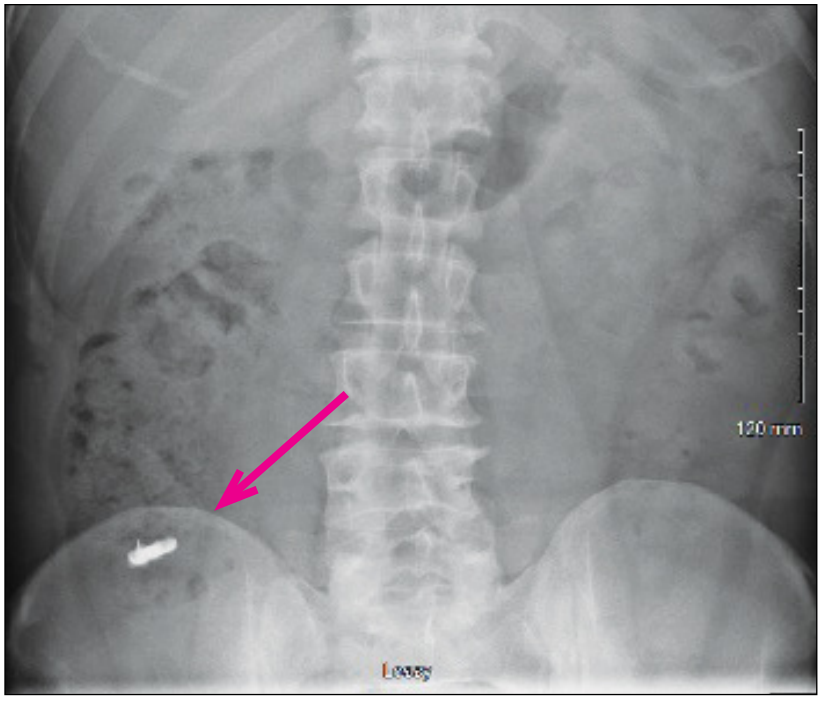

Fig. 1. Anteroposterior abdominal X-ray of 2.2-cm metallic foreign body overlying the right lower quadrant, likely in proximal ascending colon.

setting to evaluate the progress of the foreign body through the intestinal tract.[4]

Ingested foreign bodies can cause serious complications, however perforation and sepsis are rare. The risk of injury does increase with objects that are greater than 5 cm in length or with sharp, pointed shapes. Therefore, characteristics of the foreign body should also be considered along with symptoms.[4]

What is most important is early diagnosis for successful management; this reduces the risk and severity of complications. Ingested foreign bodies can often be excreted within a few days to a few weeks without intervention.[5]

The most common places for a foreign body to get stuck are in the lower esophageal sphincter as well as in the ileocecal region, appendix, sigmoid colon, or rectum. Objects larger than 5 cm in diameter should be removed emergently, regardless of length of time or whether the patient is symptomatic or asymptomatic, as it will not be able to pass the pylorus or the ileocecal valve and will cause obstruction.[2] Other emergent concerns include abdominal pain, bloody stools, dysphagia, vomiting, sore throat, cyanosis, and coughing.[6]

Removal often requires endoscopy, colonoscopy, or enteroscopy.[3] Treatment should not be delayed if signs of complications are present. In this case, the patient was treated with outpatient elective colonoscopy since the dental implant had not moved from the cecum after three weeks from ingestion.

The implant was successfully removed via colonoscopy without complications. Follow-up one month later showed that the patient was doing well and not having any residual symptoms or complications from either the foreign body or removal.

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