

## CORRESPONDENCE

**Swallowed Foreign Bodies in Adults**

by Dr. med. Peter Ambe, Dr. med. Sebastian A. Weber, PD Dr. med. Mathias Schauer, Prof. Dr. med. Wolfram T. Knoefel in volume 50/2012

**Tablets as Foreign Bodies**

Sometimes ingested foreign bodies do not only cause problems but actually service as a diagnostic indicator. We recently reported on a somnolent patient in whom a diagnosis of tablet-related intoxication was made primarily on the basis of a finding of several identical radiopaque foreign bodies in the stomach (1). Because of suspected trauma, this patient had undergone a CT scan.

Many, but not all, tablets contain white pigments (titanium oxide) or other additives containing elements of a higher order (bromide, iodine) and are therefore radiopaque. However, it is also true that tablets can be radiologically confirmed only within a narrow time window between ingestion and resorption.

Dissolved tablets cannot be distinguished with complete certainty from foods with a high calcium content or gastrointestinal hemorrhage.

Even though findings of tablets in computed tomography are typical it is still unusual for a diagnosis of intoxication to be made primarily on a radiological basis.

DOI: 10.3238/arztebl.2013.0297a

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**Non-Ionizing Diagnostic Evaluation of Ingested Foreign Bodies**

The interesting article by Ambe et al. on the diagnostic and therapeutic approach to swallowed foreign bodies in adults indicates, among other issues, the all-too-scarce use of sonography in the diagnostic evaluation of ingested foreign bodies (1). In our opinion, using non-ionizing imaging modalities are a welcome alternative in children and adolescents—the groups in which ingestion of foreign bodies occurs most commonly—but also in pregnant women. Magnetic

resonance imaging (MRI) is ruled out, on the one hand, because of the unknown size of the bodies and the fact that it is not known whether the bodies contain metal. On the other hand, bodies consisting of stone, metal, ceramic, or glass do not display well on MRI.

For this reason we immersed several metallic and non-metallic items into a solution containing water or jelly and conducted sonography using a commercially available ultrasound device with different probes (linear, convex) (2). We were able to clearly sound out, measure, and unequivocally identify all items (among others, a key, a shell, a plastic Smurf, a spring from a ballpoint pen, and a 2-Euro coin). We believe that this method could easily be used in vivo, in spite of possible masking effects, and would therefore encourage colleagues to conduct sonography before radiography or as an add-on, in order to obtain more data on the specificity and sensitivity of this method in this particular indication.

DOI: 10.3238/arztebl.2013.0297b

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**Intentional Ingestion**

The phenomenon of intentional ingestion should not remain unmentioned. Such ingestions are seen in patients in psychiatric or penal institutions. More often in the 1960s, eventually with a clearly declining trend (presumably owing to the success of endoscopy), sentenced offenders swallowed bundled-up metal springs that would open up in the stomach after a short time and could not be excreted in the normal digestive process. The prisoners were hoping for surgical removal as a change in their situation in the penal system, which they often experienced as “desolate,” and equally for the opportunity to escape from the hospital later. Prison surgeons are familiar with these processes.

DOI: 10.3238/arztebl.2013.0297c

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## Magnet Ingestion

In their article, the authors provide a selective review of the literature based on a PubMed search (1). The selected publications include retrospective studies, reviews, and recommendations.

They also discuss the ingestion of magnets in adults, but the majority of such cases occur in children. Ingesting this type of foreign body does, however, entail particular risks. If a magnet is swallowed it should not cause any further problems, depending on its size, shape, and surface consistency. Swallowing several magnets, however, or at least one magnet and a further ferromagnetic body can lead to life-threatening complications (2, 3). A report published by the US Centers for Disease Control and Prevention presents 20 cases in the US between 2003 and 2006; perforation occurred in 90% of cases, and volvulus with subsequent bowel ischemia and sepsis with a fatal outcome in one case (2).

The question is whether in such cases, an indication exists for emergency esophagogastroduodenoscopy after conventional radiological diagnostic evaluation,

and if queried early surgical intervention, before gastrointestinal complications can develop (3, 4).

DOI: 10.3238/arztebl.2013.0298

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## Conflict of interest statement

All authors declare that no conflict of interest exists.

**The authors of the article have chosen not to publish a reply.**