Unusual retrograde movement of an open safety pin: The second case in the literature

Ucu açık çengelli iğnenin geriye doğru anormal ilerleyişi; literatürdeki ikinci olgu

To the Editor,

Foreign body (FB) ingestion is a common problem in the pediatric population, especially in infants. Morbidity and mortality due to FB ingestion are rare in childhood (1).

FBs with smooth edges usually cause no serious problem; however, sharp FBs, if not retrieved at the earliest possible time, may penetrate the wall and cause serious complications (2). Objects larger than 2 cm in diameter are less likely to pass the pylorus, and objects longer than 6 cm may become entrapped at various levels.

An eight-month-old girl was admitted to a health center with suspicion of safety pin (SP) ingestion. Abdominal roentgenogram showed a SP located in the abdomen (Figure 1). The patient was referred to our emergency department. Physical examination of the patient was normal. As the handheld metal detector (HHMD) localized the ingested pin above the xiphisternum, we repeated the radiography and detected the SP lodged in the esophagus (Figure 2). The SP was extracted by rigid esophagoscopy under general anesthesia. After the intervention, gastroesophageal reflux (GER) was diagnosed by scintigraphy, and the patient was discharged with antireflux therapy after 3 days' follow-up.

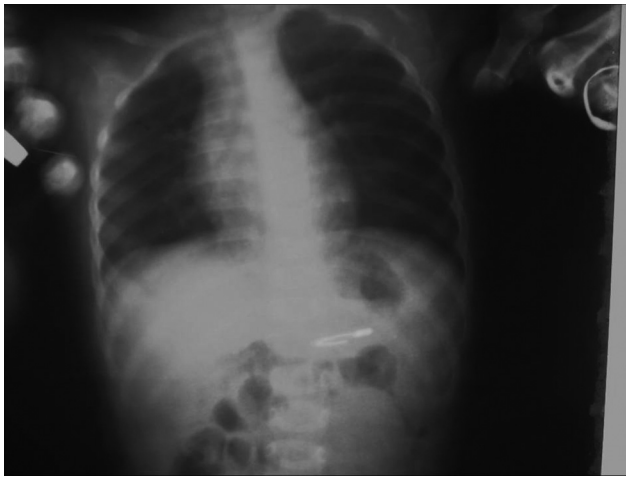

Figure 1. Abdominal plain roentgenogram revealed an open-end safety pin, which was located in the stomach

Figure 2. After detection of the ingested pin above the xiphisternum by handheld metal detector, plain roentgenogram was repeated and demonstrated the migration of the safety pin to the esophagus.

Among children with ingested FB, 10-20% require nonoperative intervention, and 1% or less require surgery (3). Complications such as mucosal damage, aspiration and obstruction may occur after ingested FBs, particularly those lodged in the esophagus, and this condition usually requires urgent removal.

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There are some controversial reports on the behavior of ingested open SPs. In some studies, ingested SPs mostly become impacted at the level of the cricopharyngeal narrowing. If they can pass this region, they transit the gastrointestinal tract spontaneously without any difficulties (2-4). In contrast, in a series of 35 swallowed SPs, nearly half required surgical intervention (5).

Thus, patients with ingested open SP should be hospitalized and followed carefully for possible complications including stomach pain, tenderness, fever, and rectal bleeding.

If the patient is stable, closely monitoring is recommended with HHMD. Repeated radiography should only be ordered when a complication occurs (6).

If SPs remain closed, they can easily pass through the gastrointestinal tract. In this situation, lodgement of the pin in the same area for three days or gastrointestinal tract bleeding and/or peritonitis may require surgical or endoscopic removal (5). This is the first Turkish study that reports migration of a FB to the esophagus after lodgement in the stomach, which can be explained by the patient's GER, a well-known physiological condition in infants under 1.5 years of age (7).

The sensitivity of scintigraphy for the detection of gastroesophageal reflux disease (GERD) is known as poor. However, it is a noninvasive procedure and its specificity ranges from 83-100% (8). Therefore, we preferred the scintigraphy to confirm the diagnosis of GERD regarding the retrograde movement of the SP. If the scintigraphy failed to detect GERD, we might perform esophageal pH monitoring as a gold standard. Flexible endoscopy is preferred in infants in most circumstances because the FBs can be visualized directly and manipulated. However, for impacted sharp objects, particularly if they are located in the proximal esophagus, rigid endoscopy is more useful (9).

We recommend prompt removal of any sharp object in the esophagus or proximal gastrointestinal tract because of the high rates of complications from sharp objects.

Migration of FBs to the esophagus after lodgement in the stomach is an extremely rare condition. In order to avoid migration of sharp FBs like SPs to the esophagus due to a possible GER effect in infants, a semi-upright position (45-60°) for the child may be proposed.

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