

## Oesophagus obstruction due to ingestion of multiple foreign bodies

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### Abstract

The ingestion of a foreign body (FB) is a potentially serious condition. In children, the most common years for FB ingestion are from the age of 6 months to 6 years. FB ingestion also occurs in those with psychiatric disorders or mental retardation and among adult prisoners and alcoholics. Most ingested FBs spontaneously pass out of the body via the gastrointestinal system. An endoscopic or surgical approach is only needed if the object fails to progress through the gastrointestinal tract. All objects impacted in the oesophagus require urgent treatment. This study reports a case of multiple FB ingestion and provides a literature review.

**Keywords:** Multiple foreign bodies, Emergency, Esophagus obstruction, Surgery.

### Introduction

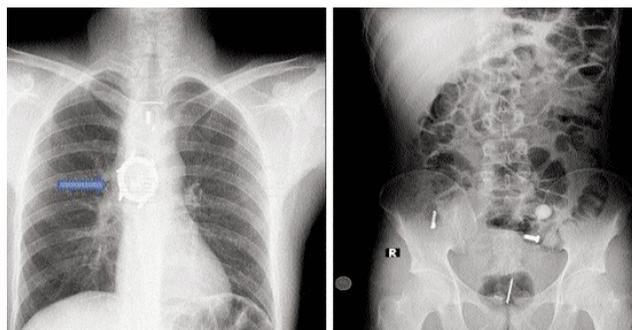
Ingestion of foreign bodies (FBs) is a serious health problem for children. In the adult population, the aspiration or ingestion of a FB has frequently been reported to occur in the elderly, alcoholics and those with psychiatric illness or who are mentally retarded.<sup>1</sup> In the literature, various studies have presented cases involving FBs such as coins, batteries, needles, bottles and glass in the gastrointestinal system.<sup>1-3</sup> A geographical and ethnic influence on the type of FB ingested has also been found.<sup>2</sup> The management of these patients is based on the size and nature of the FB and whether it is smooth or sharp.<sup>1</sup> Generally, FBs with small and smooth edges do not cause significant problems; however, sharp objects may create a series of complications, particularly obstruction and perforation, if they are not removed immediately.<sup>4</sup> Approximately 10-20% of cases will require endoscopic management, and less than 1% will need a surgical approach.<sup>5</sup> Here, we report a case of multiple FBs being ingested over a period of seven days; surgical intervention was performed after attempted endoscopic approaches had failed.

### Case Report

A 22-year-old man was admitted to the emergency

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**Figure-1:** Conventional radiography was shown multipl FBs.



**Figure-2:** Postoperative appearance of multiple FBs.

department of Yuzuncu Yil University, School of Medicine, Van, Turkey, in June 2013, complaining of abdominal pain after swallowing FBs. On admission, the patient's general status was moderate. His blood pressure was 110/80 mm Hg, his heart rate was 85 beats/min, oxygen saturation was 95 %, and his body temperature was 36.5°C. Upon physical examination, nonspecific abdominal tenderness and chest discomfort were found. It was learnt that he was schizophrenic and followed irregularly by psychiatrists. The laboratory parameters were within the normal range. Conventional radiography of the chest and abdomen revealed multiple FBs (Figure-1). The patient said that he had swallowed a few screws and a wrist watch. During esophagoscopy performed by a gastroenterologist, a toy car and small teddy bear were removed. However, because the body of the wristwatch could not be extracted, thoracotomy was performed to remove it. As a result of these two interventions, all of the FBs were

removed (Figure-2). The postoperative period of the patient was smooth, and 6 days after the intervention, he was transferred to a psychiatric clinic where he was hospitalized for 27 days. Three months after discharge from hospital, the patient was readmitted with a foreign body ingestion. Laparoscopic gastrostomy was performed and foreign body was removed.

## Discussion

The case presented is of rare oesophageal obstruction due to multiple FBs being ingested over a period of seven days.

Majority of FB ingestions are observed in the paediatric population between the ages of 6 months and 3 years.<sup>5</sup> In adults, FB ingestion occurs more commonly among those with psychiatric disorders or who are suffering from mental retardation as well as among prisoners and alcoholics.<sup>5</sup> In a study conducted in 1996, Velitchkov NG<sup>6</sup> et al. stated that of the cases they investigated, 69.9% of the patients were prison inmates at the time of ingestion, 22.9% had a history of psychosis, and 7.2% were alcoholics or denture-wearing elderly subjects. Our patient was 22 years old and had a psychiatric disorder.

In the literature, children are reported to most often ingest toys, coins, and crayons, while adults are susceptible to problems with meat and bones.<sup>2,3</sup> In Turkey, Atila et al.<sup>4</sup> and Kavalci et al.<sup>7</sup> presented two adult cases involving the swallowing of a dinner fork. However, to date, there have been no reports of the ingestion of multiple FBs such as a wrist watch, a toy car and a small teddy bear.

The diagnosis of a FB ingestion depends on the patient's history and the reported complaints such as odynophagia, chest discomfort, difficulty in swallowing, dyspnoea, abdominal pain, vomiting, haematemesis, FB sensation and coughing.<sup>8</sup> The physical examination of patients with gastric or duodenal FBs is generally not useful.<sup>5</sup> Neck, chest and abdominal radiography may show metal objects, bones and free air.<sup>8</sup> Computed tomography rarely is required to diagnose FB ingestion.<sup>2</sup> In 2013, Erbil et al.<sup>8</sup> conducted a study in Turkey and reported that X-rays were performed on 75% patients presenting with FB ingestion. In 1990, in a prospective study of 358 patients with accidental fish bone ingestion, Nghan JK et al.<sup>9</sup> found that plain radiography had a sensitivity of 32%. In the current study, opaque FBs were observed on plain radiography.

The methods of treatment depend on a patient's age and clinical features, the type and size of the FB and the anatomical location. A small proportion of ingested FBs require a surgical approach.<sup>5,8</sup> All FBs obstructing the esophagus require an urgent approach.<sup>2</sup> In one study, the authors noted that most FBs passed spontaneously through the body (75.6%), endoscopic removal was performed in 19.5% of cases, and only 4.8% required surgery.<sup>6</sup> Another study reported that a fiberoptic evaluation was performed on 45% of patients. In the same study, 17% of the detected foreign bodies were located in the oesophagus. The detected FBs included food (52%) and pins (19%).<sup>9</sup> In our case, multiple FBs were removed by esophagoscopy, but the body of a wristwatch could not be extracted with this method and required surgery.

## Conclusion

Patient with a history of recurrent foreign body ingestion should be followed in a psychiatry outpatient clinic. To our knowledge, this is an interesting case in terms of the nature and number of FBs ingested by this adult patient. In this case, surgical intervention was required following the failed endoscopic procedures. It is important that the medical practitioner considers the size, number, shape, structure and anatomical location of swallowed objects before deciding on the appropriate treatment and follow-up regimen.

## References

1. Zippi M, Febbraro I, De Felici I, Mattei E, Pica R, Traversa G, et al. Foreign bodies in the upper gastrointestinal tract. Personal experience. *Clin Ter* 2007; 158:291-5.
2. Smith MT, Wong RKH. Foreign bodies. *Gastrointest Endosc Clin N Am* 2007; 17: 361-82.
3. Lee TH, Kang YW, Kim HJ, Kim SM, Im EH, Huh KC, et al. Foreign objects in Korean prisoners. *Korean J Intern Med.* 2007; 22: 275-8.
4. Atila K, Unek T, Sevinc AI, Aydogan B, Serin A, Bora S, et al. Delayed complete gastric outlet obstruction due to a dinner fork: report of a case. *Ulus Travma Acil Cerrahi Derg.* 2010; 16:376-8.
5. Wnek B, Lozynska-Nelke A, Karon J. Foreign body in the gastrointestinal tract leading to small bowel obstruction--case report and literature review. *Pol Przegl Chir* 2015; 86: 594-7.
6. Velitchkov NG, Grigorov GI, Losanoff JE, Kjossev KT. Ingested foreign bodies of the gastrointestinal tract: retrospective analysis of 542 cases. *World J Surg* 1996; 20: 1001-5.
7. Kavalci C, Sezer A, Coskun I. An Unusual Foreign Body in Stomach: Dining Fork. *Trakya Univ Tip Fak Derg* 2009; 26: 281-2.
8. Erbil B, Karaca MA, Aslaner MA, Ibrahimov Z, Kunt MM, Akpınar E, et al. Emergency admissions due to swallowed foreign bodies in adults. *World J Gastroenterol* 2013; 19: 6447-52.
9. Ngan JH, Fok PJ, Lai EC, Branicki FJ, Wong J. A prospective study on fish bone ingestion. Experience of 358 patients. *Ann Surg* 1990; 211: 459-62.