Bangladesh Journal of Medicine (BJM)
ISSN : 1023 - 1986
eISSN : 2408 - 8366

CASE REPORT

ENDOSCOPIC REMOVAL OF IMPACTED INTENTIONALLY INGESTED STONE IN ESOPHAGUS

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Abstract:

Intentional foreign body ingestion is commonly seen in patients with psychiatric illness and prisoners.It accounts for approximately 4% of urgent endoscopic procedures. Such intentional ingestion of foreign bodies are rare in conscious and healthy people.The majority of foreignbodies ingestion are accidental.Esophageal injury depends upon location and types of foreign body.It can cause problems such as difficulty in swallowing,excessive drooling,coughing,chest discomfort,vomiting of blood and respiratory problems.In our case, we used flexible endoscope with Dormia basket to remove intentionally ingested and then impacted stone in mid esophagus of a psychiatric patient.

Key words: *Impacted ingested stone, stone in esophagus, endoscopic removal.*

Received : 06.08.2024 Accepted : 22.08.2024
DOI: https://doi.org/10.3329/bjm.v35i3.75343

Citation: *Shrestha R, Rajbhandari S, Kafle R, Shrestha M, Shrestha D. Endoscopic Removal of Impacted Intentionally Ingested Stone in Esophagus. Bangladesh J Medicine 2024; 35: 211-213.*

Introduction:

Influence of alcohol and psychiatric disorders are common predispositions in adults to foreign body ingestion.[1] When someone intentionally puts anything with goal of hurting themselves or others,it's called intentional foreign body ingestion.[2] Deliberate ingestions of foreign bodies are rare in conscious and healthy people but are frequently seen in psychiatric, insane and mentally challenged adults.[3] Most of the intentional and repeated swallowing has a psychiatric background which had not been given much attention in the past.[4]

The majority of ingested foreign bodies will pass spontaneously. Pre-endoscopic series have shown that 80% or more of foreign objects will likely pass withoutthe need for intervention.[5,6] However, two recent studies have shown that in the setting of intentional ingestion, therate of endoscopic intervention may be much higher (63%to 76%) and the need for surgical intervention ranges from 12% to 16%.[7,8] Foreign bodies tend to lodge in the points of anatomical narrowing of esophagus.[9]

Case report:

A32 year gentle man was brought to our department with complaints of sudden dysphagia to both liquid and solid after ingestion of stone.He also hadcomplaints of pain in the middle of the chest, excessive drooling,coughing,chest discomfort.Three days back,he had swallowed stone from road intentionally.

The vitals signs were stable. He had elevated white blood cell count (16000/L).Chest x-ray anterior and oblique view revealed a 2.5 x 2.0 cm oval opacity over the mediastinum suggesting retention of the stone in the middle part of esophagus (Figure:1,2). .ECG was normal.

Upper gastrointestinal endoscopy (Fujinon Processor VP-3500HD) was planned for possible removal of impacted foreign body.The patient was kept in leftlateral position without sedation.Endoscopy was performed which revealed a large, smooth oval stone in the mid esophagus at 25 cmfrom upper incisor teeth. Size of the stone was approximately 3 X 2 cm. Dormia basket was inserted through accessory channel to pull the stone out (Figure: 3-5). After removal of the stone, an area of superficial mucosal laceration was noted at the site adjacent to stone impaction (Figure: 6).There was no signs of perforation and no residual foreign bodies.He was kept in observation for 24 hours.Subsequent blood reports were normal.He could drink liquid diet and soft diet.Subsequent X-ray revealed no evidence of foreign bodies.The patient was discharged with advice to consult psychiatrist.

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Figure 1: *Chest X-ray stone impacted in oesophagus*

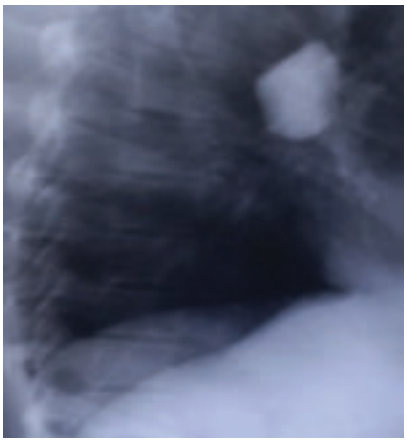

Figure 2: *Oblique view Chest X-ray stone impacted in oesophagus*

Figure 3: *Impacted stone in endoscopy at oesophagus*

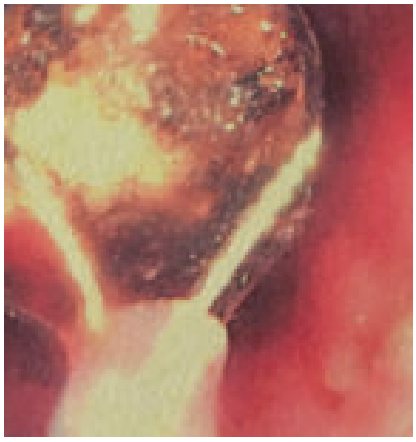

Figure 4: *Removal of impacted stone with use of Dormia basket*

Figure 5: *Stone after removal*

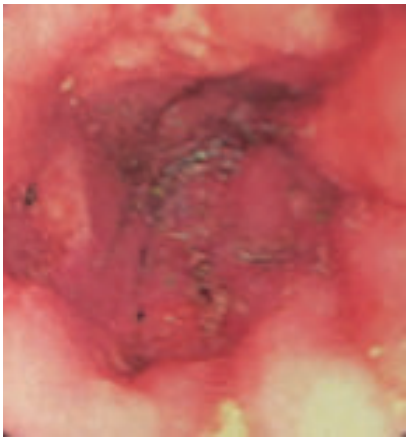

Figure 6: *Mucosal laceration*

Discussion:

In patient with foreign body ingestion, the percentage of patients who require endoscopic intervention is higher,between 63% and 76%.[10]The most common encountered foreign body is coin in childrens (<14 years), food boluses in adults and dentures in the elderly.[11,12]

Our case revealed successful removal of impacted intentionally ingested stone in oesophagus through flexible endoscopy with the use of Dormia basket.A similar case report fromMayo Clinic showed removal of a large stone in the Upper Thoracic Esophagus with flexible endoscopy.[13]Sah et al reported the case of a35-year old man with delayed cognitive development in Nepal who swallowed a stone and removed through rigid endoscopy.[14]

Foreign bodies may lead to serious adverse outcomes such as ulceration, obstruction, perforation, and even death. The management of such patients is not only time taking but also a financial burden and a psychological trauma to the whole family.[15]Many experts have recommended endoscopic removal of objects wider than 2.5 cm because they may be less likely to pass through pylorus, although limited data exist to support this recommendation.[1, 16, 17, 18] Objects that fail to pass beyond the stomach by 3 to 4 weeks should be removed endoscopically. Clinical signs of peritonitis are indications for immediate surgical evaluation. Surgical removal should also be considered for objects located distal to the duodenum but in the same location longer than 1 week if they cannot be reached endoscopically.[1,16]

Esophageal foreign object and food impactions should be removed within 24 hour because delay decreasesthe likelihood of successful removal and increases the risk of complications including risk of perforation.[18,19]Most ingested foreign bodies are best treated with flexible endoscopes. Removal with flexible endoscopes has a high success rate and can be performed with conscious

sedation in most adults. Various retrieval devices have been used, including rat-tooth and alligator forceps, polypectomy snares, polyp graspers, Dormia baskets, retrieval nets, magnetic probes, and friction-fit adaptors or banding caps.

Conclusion:

Intentional ingested foreign bodies can be managed safely with endoscopy and retrieval devices.These patients need multidisciplinary approach including referral to psychiatrist.

Consent:

Informed consent was obtained from the patient for the publication of this case report.

Declaration:

The authors declare no conflict of interest.

Acknowledgments:

The authors were grateful to the staffs of the Department of Gastroenterology in Bir Hospital, Kathmandu, Nepal, Star Hospital, Kathmandu, Nepal.

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