

**A RARE CASE OF DEATH IN FORENSIC EXPERT PRACTICE AFTER INGESTION OF  
MANY FOREIGN BODIES INSIDE STOMACH**

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**Abstract**

By definition, ingestion of foreign bodies is a pathologic process in which these foreign bodies are swallowed and they enter the gastrointestinal tract through the mouth. This medical condition can provoke several life-threatening conditions and it raises huge interest among medical specialists in various medical specialties, mainly in the field of emergency medicine, psychiatry, surgery. Such cases could be seen in the field of Forensic Pathology in the process of routine autopsy examination of dead bodies. We present a case of 33-year-old man, who died in the hospital, with macroscopic and microscopic features of developed purulent peritonitis due to perforation of the stomach as a result of foreign body ingestion. In patients with proven foreign bodies inside the gastrointestinal tract, a specific algorithm for work and specific guidelines must be followed, including performing important imaging examinations, timely initiation of surgical treatment to prevent the fatal outcome, and subsequent consultation with a psychiatrist in order to clarify the underlying psycho-pathology.

**Keywords:** *acute peritonitis, foreign body ingestion, gastrointestinal tract, autopsy findings*

**Introduction**

By definition, ingestion of foreign bodies is a pathologic process in which these foreign bodies are swallowed and they enter the gastrointestinal tract through the mouth. This medical condition can provoke several life-threatening conditions and it raises huge interest among medical specialists in various medical specialties, mainly in the field of emergency medicine, psychiatry, surgery (1,2). Such cases could be seen in the field of forensic pathology in the process of routine autopsy examination of dead bodies (3). Most often, the reason for ingestion of these foreign bodies into the gastrointestinal tract, are various mental illnesses and personality disorders. A number of scientific studies have found that most of foreign bodies in the gastrointestinal tract can pass spontaneously through the rectum without significant life-threatening symptoms. However, there is always a possible risk of serious complication that could require emergency endoscopic or open abdominal surgery to save the patient's life.

**Case presentation**

A 33-year-old man was found in a helpless condition inside his home in a village near city of Smolyan by family members. Emergency squad was immediately sent to the address of the patient and after quick medical assessment, the patient was transported to Emergency care unit in the State Hospital "Bratan Shukerov", city of Smolyan, Bulgaria, for further diagnostic procedures and adequate medical treatment. After 1 hour of intensive medical care he died in the hospital with clinical signs of acute peritonitis. The dead body was transferred to the Unit of Forensic Medicine of the same hospital for routine autopsy examination. During the routine external examination of the body no evidence for traumatic findings over the body parts were observed. Livor mortis was well presented, with typical bluish color, completely disappearing after pressing with fingers. Body was cold when touching the skin, rigor mortis was well presented over all muscle groups of the whole body. During the internal examination of the corpse by opening all body cavities presence of 450 ml of yellowish liquid with unpleasant smell (typical morphologic finding for developed purulent peritonitis) was established. The stomach was greatly distended and deformed (a routine x-ray examination was performed during the hospital stay of the patient, showing well defined foreign bodies situated inside the stomach- Fig.1).

Fig. 1



When the organ was widely opened with scissors, many different by size and shape foreign bodies were found— pocket knives, locker handles, wires, tweezers, bolts, magnets, springs etc. (Fig. 2 and Fig.3).

Fig. 2



Fig. 3



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The gastric mucose was with many ulcers, diffusely bleeding, with one small complete rupture of the muscular wall in the area of great curvature with length 2 cm. All other internal organs and systems inside the cranial and thoracic cavity were without significant pathologic changes. Additional microscopic examination of samples from the intestines, the stomach, peritoneal sheets and other abdominal organs was performed and morphologic findings, confirming the diagnose for acute purulent peritonitis were well seen. No additional drug or alcohol concentrations were stated during all additionally performed toxicology analyses.

### Discussion

Ingestion of foreign bodies usually occurs in young children or the elderly (4), while in adult individuals this condition is usually related to presence of any underlying mental disorder. In most of cases this condition passes without any medical complication. However, it may lead to severe health problems - obstruction, bleeding or gastrointestinal perforation (5). Gastrointestinal tract perforation is the most harmful complication of foreign body ingestion and the diagnosis is rarely established preoperatively, because most of the patients do not recall or disclose ingesting any foreign body. Especially this situation could be seen in cases of patients with underlying mental disorders, where diagnosing of foreign body ingestion can be quite challenging and the clinical manifestation can be quite non-specific. In such cases diagnostic imaging, such as CT scan, could play crucial role in confirming the diagnose (6) in combination with all other routine clinical and para-clinical diagnostic methods. The main therapeutic challenge of gastrointestinal perforation after ingestion of a foreign body is the accurate and early diagnosis of this acute medical problem and appliance of adequate surgical treatment with intraoperative careful exploration of foreign bodies, well performed suture of lesions with overlook for concomitant lesions (7), in combination with adequate antibiotic medication, surgical antiseptic treatment and drainage of abdominal cavity.

### Conclusion

Often, deliberate ingestion of foreign bodies is an impulsive and repetitive pathologic action, that can lead to serious life-threatening consequences, requiring the emergency intervention of qualified specialists by vital indications (8). In patients with proven foreign bodies inside the gastrointestinal tract, a specific algorithm for work and specific guidelines must be followed, including performing of important imaging examinations, timely initiation of surgical treatment to prevent the fatal outcome, and subsequent consultation with a psychiatrist in order to clarify the underlying psycho-pathology.

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