

## Intestinal migration of a low-energy projectile after penetrating abdominal injury with gastric perforation

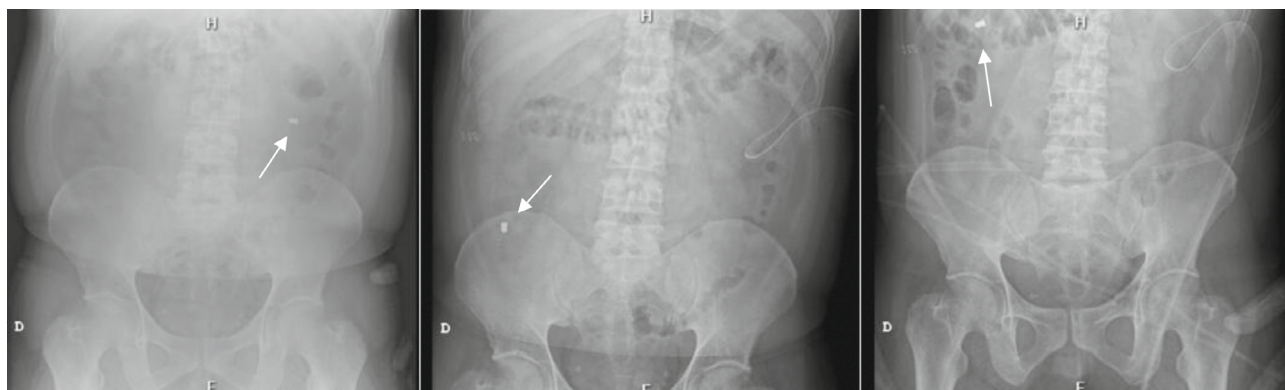
*Migración intestinal de un proyectil de baja energía tras una herida abdominal penetrante con perforación gástrica*

### To the Editor,

The emergency management of patients with penetrating injuries must be systematic and oriented toward the early identification of life-threatening lesions, following the recommendations of protocols such as Advanced Trauma Life Support (ATLS) or the European Trauma Course (ETC).<sup>1,2</sup> The extended focused assessment with sonography for trauma protocol in the emergency department for polytrauma patients (E-FAST) should be performed as early as possible for the rapid detection of free intrabdominal, thoracic, and pericardial fluid. In the presence of hemodynamic instability and a positive E-FAST examination, damage-control surgery is indicated.<sup>3</sup> If the patient is stable, complementary studies are required, such as computed tomography (CT), which is essential for evaluating trajectories, detecting lesions, and planning the therapeutic strategy.

We present the case of a 38-year-old man with a penetrating abdominal injury caused by the impact of low-energy, small-caliber ammunition (5.5-mm pellet) fired from approximately 2.5 meters away. Upon arrival, he was hemodynamically stable (blood pressure 110/50 mmHg and heart rate 75 bpm), eupneic at rest with pulse oximetry of 95% on room air, and with 15 points on the Glasgow Coma Scale. On inspection, he presented an entry wound between the left posterolateral 9<sup>th</sup>–10<sup>th</sup> costal arch, without a visible exit wound. Thoracoabdominopelvic CT showed a linear trajectory extending to the stomach, with pneumoretroperitoneum and free fluid consistent with gastric perforation. However, the pellet was lodged within a jejunal loop at the level of the left iliac fossa.

Exploratory laparoscopy revealed mild-to-moderate hemoperitoneum and a 5-mm perforation on the posterior gastric wall, which was sutured, with no evidence of an exit wound or intraoperative identification of the projectile. Clinical evolution was favorable, and conservative management of the foreign body with



**Figure 1.** Series of radiographic studies used for projectile follow-up (arrows), demonstrating its position, displacement, and relative stability in successive follow-up examinations performed every 48 hours.

clinical and radiological surveillance was chosen (Figure 1). On the fourth day, distal progression to the rectal ampulla was confirmed, and the patient was discharged without complications.

This case resembles an exceptional variant of the so-called swallowed bullet syndrome,<sup>4,5</sup> in which the projectile gains access to the gastrointestinal tract after gastric perforation, rather than being directly ingested after the shot. Few cases of intraluminal projectile migration have been described, all with favorable evolution under management based on hemodynamic stability and radiological follow-up.<sup>5,6</sup>

The decision to remove the projectile remains controversial, since removal is often associated with greater complications than leaving it in place. Indications for extraction include symptomatic projectiles (intra-articular location, sepsis or abscess, embolization, or lead poisoning) or removal during surgery. Therapeutic management depends on the patient's clinical status, the nature of the object, and its location. In hemodynamically stable situations, sharp objects, batteries, or objects retained in high-risk areas require extraction; small blunt objects may be managed conservatively, since they usually progress and are spontaneously expelled. There is no

robust evidence or recommendation in clinical guidelines regarding the systematic use of laxatives or digestive-cleansing preparations for the expulsion of ingested foreign bodies. In exceptional cases, when located in the colon, the use of colonic lavage solutions (polyethylene glycol) has been described to facilitate expulsion, based on isolated reports and not recommended as standard practice.

This case illustrates that even low-energy projectiles may cause severe visceral injuries and unpredictable trajectories, yet they do not always require removal. In stable patients, an individualized approach based on imaging and clinical evolution allows safe and effective conservative management, avoids unnecessary interventions, and reduces associated morbidity.

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**Conflict of Interest Disclosures:** None declared.

**Author Contributions, Funding, and Ethical Responsibilities:** All authors have confirmed their authorship, the non-existence of external

funding, and the maintenance of confidentiality and respect for patients' rights in the author's responsibilities document, publication agreement, and assignment of rights to EMERGENCIAS.

**Editor in Charge:** Adriana Gil Rodrigo.

**Article not commissioned by the Editorial Board and with external peer review.**

## References

- 1 American College of Surgeons Committee on Trauma. Advanced Trauma Life Support (ATLS®): Student Course Manual. 11th ed.: American College of Surgeons; Chicago (IL). 2025.
- 2 Gwinnutt CL, Driscoll P, Grünfeld M, Hüpfel M, Kuhn S, Lott C, et al, editors. European Trauma Course: The Team Approach. 3<sup>a</sup> ed. European Trauma Course Organisation; Bélgica; 2013.
- 3 World J Emerg Surg Editorial Board. Management guidelines for penetrating abdominal trauma. *World J Emerg Surg.* 2025;20:78.
- 4 Morrow JS, Haycock CE, Lazaro E. The "swallowed bullet" syndrome. *J Trauma.* 1978;18:464-6.
- 5 Pereira Graterol F, Romero Bravo C, Arcia A, Suárez O. The swallowed bullet": illustration of a rare missile trajectory in a pediatric gunshot neck injury. *Cir Pediatr.* 2007;20:229-31.
- 6 Nur Iyow S, Ahmed Ahmed A, Nur Mohamed A, Moallim Ali Jama S, Adan Ali Adan H. Spontaneous passage of an accidentally ingested metallic bullet casing in an adolescent: a case report. *Int J Emerg Med.* 2025;18:229.
- 7 Casaubon PR, Berquist W. Removal of a colonic foreign body by enteral lavage. *J Pediatr Gastroenterol Nutr.* 1987;6:815-7.