

**TRAUMATIC
BACKGROUND
REMOVAL
CONTRIBUTING TO THE
LATE DIAGNOSIS OF
DUODENAL TRAUMA**

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Abstract: Blunt duodenal trauma is an entity of difficult diagnosis and high morbidity and mortality. We report a case of a patient with severe blunt trauma, in which there was a late diagnosis of duodenal injury, due to the presence of a soft tissue injury with back degloving associated with fracture and lysis of v lumbar vertebrae, which confounded the interpretation of the CT scan. A high index of suspicion is necessary to reduce morbidity and mortality from this lesion.

INTRODUCTION AND OBJECTIVES

Despite advances in the diagnosis and treatment of traumatic injuries, blunt duodenal injuries still remain a challenge for the surgeon¹⁻⁵. Diagnosis is usually made by computed tomography (CT) scan, except in cases where there is direct visualization of the lesion during an exploratory laparotomy. The morbidity and mortality of these patients is high and the treatment is complex and controversial^{1,3,4}.

This article reports the case of a victim of blunt trauma, in which associated injuries led to a delay in the diagnosis of duodenal injury.

CASE REPORT

33-year-old female patient, victim of a hit-and-run, was admitted to the Emergency Department of a trauma referral hospital, intubated, with grade III shock and a Glasgow Coma Scale of 3. severe brain, signs of closed fractures in the lower limbs, abrasions on the abdomen and a degloving -type laceration on the back, approximately 15x15cm, which allowed the visualization of the spinous process of a dislocated and fractured lumbar vertebra. In the initial evaluation, the abdomen was flaccid and the pelvis was stable.

After resuscitation measures, the patient was stabilized and referred for imaging tests. The radiographs showed a bilateral tibial

fracture and on the CT of the abdomen and pelvis it was possible to identify a dislocation associated with the fracture of L1 and L2, in addition to the presence of air in the dorsum, spinal canal and in small amounts in the retroperitoneum. (Figure 1).

After evaluation by the specialists, the patient was submitted, in the emergency room, to bloodless reduction and application of a splint in fractures of the lower limbs and debridement with approximation of the lesion on the back.

She was later referred to the ICU where she developed acute renal failure (ARF) due to rhabdomyolysis, in addition to severe systemic inflammatory response syndrome (SIRS) and lower limb ischemia. On the 3rd day of hospitalization, she underwent bilateral supragenicular amputation.

On the 4th day, clinical and laboratory worsening continued, and a discharge of secretion with an enteric aspect was identified by the dorsum laceration. After evaluation by the general surgery team, an exploratory laparotomy was performed.

Intraoperatively, he presented serosanguineous fluid in the abdominal cavity and signs of retroperitoneum necrosis. After Kocher's maneuver, a greenish secretion was observed in the retroperitoneum and a 2 cm lesion was observed on the posterior wall of the third duodenal portion, communicating with the laceration on the back. We opted for primary suture and pyloric exclusion, gastroenteroanastomosis, associated with food jejunostomy.

In the postoperative period, the clinical worsening and the multiple dysfunction organs, progressing to death on the seventh postoperative day.

DISCUSSION

intra-abdominal injury. Although the initial tomography showed retroperitoneum



a)



b)



c)

<Figure 1 – Computed tomography of the abdomen demonstrating: a) and b) Presence of air in the back, spinal canal and retroperitoneum. c) Side view of the degree of column displacement, associated with the air distributed in the segments described above.>

and periduoneal fluid, signs suggestive of duodenal perforation, the interpretation of the exam had as a confounding factor the large soft tissue lesion, which was attributed to the initial tomographic findings.

The retroperitoneal location of the duodenum makes early diagnosis of lesions difficult, and these patients are often asymptomatic. The diagnosis can be performed by means of computed tomography or by direct visualization of the lesion intraoperatively and in the absence of clinical suspicion, a lesion may go unnoticed 1,2,3, 5.

Computed tomography can show direct signs of the lesion, such as pneumoperitoneum and extravasation of contrast, when it is administered orally, and in these cases, immediate laparotomy is the recommended course of action 1-3. In the case of duodenal hematoma or periduodenal fluid, considered as indirect signs of injury, conservative management with clinical observation and a new imaging test is a safe option 2.

Duodenal trauma has high morbidity and mortality rates 3,4. High ISS (Injury Severity Score), hypotension at admission and treatment with more complex surgeries are some of the factors related to a worse prognosis 4. All were present in the reported case.

This report corroborates the difficulty in the early diagnosis of duodenal injury and how the success of the treatment lies in the high degree of suspicion of the injury and in the knowledge of the therapeutic possibilities.

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