

## APPROACH TO LIVER INJURY DUE TO MULTIPLE PERFORATION BY FIREARM – CASE REPORT

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**Abstract:** Liver trauma is associated with a significant morbidity and mortality rate in the trauma setting. Early identification, rapid management and access, and adequate surgical technique directly influence patient survival. Intrahepatic balloon tamponade (a balloon constructed with a cylindrical catheter – such as a Foley catheter – surrounded by a Penrose drain) along the path of the lesion is an effective method that reduces patient mortality in severe transfixing liver injuries. In addition to liver injuries, injuries to intestinal loops and kidney injuries are common in the setting of trauma due to gunshot wounds, and in some cases, enterectomy and nephrectomy may be necessary to control the injuries caused.

**Keywords:** Liver trauma. Perforation by firearm. Intrahepatic balloon

## INTRODUCTION

In the scenario of FAP trauma, identification of possible injuries is essential. Quick action by the team in initial care is essential for good results. This work aims to describe an emergency surgical approach due to multiple PAF.

## METHODOLOGY

Patient arrives at SCMCI, victim of multiple PAF. He was admitted awake, with psychomotor agitation, with patent airways, with subcutaneous emphysema in the right hemithorax, hemodynamically stable, abdomen painful on palpation in the upper quadrants. It had an entry hole, with no exit in FID; entrance hole in the right costal margin region with exit hole in the ipsilateral posterior region; entry orifice in right anterosuperior axillary line, without exit orifice. Additional exams and a room in a surgical center were requested for the approach.

During surgery, transfixing liver injury was revealed, with active bleeding. We proceeded with damage control and introduction of

an intrahepatic balloon. A retroperitoneal hematoma was observed in the renal cavity, where a grade 4 lacerated renal injury was found, requiring nephrectomy. Furthermore, multiple injuries were found involving the entire length of the small intestine and transverse injuries, making it necessary to proceed with segmental enterectomy and ileostomy. Due to the severity of the condition, the patient was left in a peritoneostomy and was scheduled to be re-approached in 48 hours. The patient was admitted to the ICU intubated, and was compensated using norepinephrine, undergoing peritoneostomy and ileostomy.

During the re-approach, the packing of compresses was removed and the anastomoses made were reviewed. The intrahepatic balloon was removed and there was no evidence of active bleeding, finishing with flat suturing and dressing.

The patient was referred to the ICU for post-surgical care, evolving with significant clinical improvement in the subsequent days, progressing to an oral diet without complications, with a functioning ostomy and after satisfactory progression of the condition, he was discharged from hospital, with general instructions and outpatient return.

## RESULTS AND DISCUSSIONS

Multiple perforation by firearm has shown a worrying mortality rate in today's society (16.8%). Just like the patient in question, it is known that the patients' profile is young males. Furthermore, as discussed above, in-hospital management of the case must be quick and efficient, as more than 50% of penetrating trauma patients will present involvement of a highly relevant abdominal organ. In the aforementioned patient, efficient damage control and resolving nephrectomy were observed intraoperatively.

## CONCLUSION

Therefore, we reinforce the importance of a trained team capable of identifying possible injuries with a view to effective resolution.

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