

MINIMALLY INVASIVE SURGERY IN PATIENTS WITH BLUNT AND MILITARY TRAUMA

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INTRODUCTION

In the past decade, an exponential rise in the prevalence of trauma injuries has been observed globally, including in Ukraine. This surge is largely attributable to ongoing military conflicts worldwide, such as the full-scale Russian invasion of Ukraine. Specifically, the continuous bomb shelling, missile attacks, and drone explosions have led to a rise in both polytrauma and blunt trauma among the civilian population (Table 1).

AIM

To evaluate the efficacy of laparoscopic surgery in managing abdominal trauma.

METHOD

A cohort of 565 patients with abdominal and thoracic trauma was treated in the surgical department. Patients were categorized into two groups based on hemodynamic stability:

Hemodynamically Stable (n=285): Patients with stable vital signs.

Hemodynamically Unstable (n=280): Patients with unstable vital signs.

A total of 375 patients presented with mixed trauma. The primary cause of mixed trauma in 57% of cases was combined abdominal and thoracic injury. Other common injury patterns included head injury, abdominal trauma, and limb fractures (24%) and abdominal injury, limb and pelvic fractures, and bladder trauma, often accompanied by brain and thoracic injury (19%).

The mean patient age was 45 ± 25 years.

Preoperative evaluation included laboratory tests, X-ray, ultrasound, CT, and MRI.

Laparoscopic surgery was performed on 285 hemodynamically stable patients.

RESULTS

Urgent open laparotomy was performed on 280 hemodynamically unstable patients who underwent preoperative diagnostic procedures and were found to have multiple organ injuries within the abdominal cavity.

Of the 285 laparoscopic cases, 46 patients had no life-threatening abdominal organ injuries and were managed conservatively with abdominal drainage and 24-hour observation. 145 patients with moderate-to-severe injuries to the liver, spleen, colon, stomach, gallbladder, bladder, and kidneys (AIS I-III) underwent laparoscopic repair (Chart 1). In 17 cases, laparoscopic surgery was converted to open laparotomy due to complications, primarily severe bleeding and vascular injury to the intestine with a high risk of specific complication, e.g., ischemia, necrosis.

Thoracoscopic surgery was performed in 67 cases to address lung and subcostal artery bleeding.

The mean operative time for laparoscopic surgeries was 45-70 minutes.

Postoperative complications occurred in 12 patients. Overall mortality after laparoscopic surgery was 9 patients: 5 due to severe craniocerebral trauma and 4 due to pneumonia.

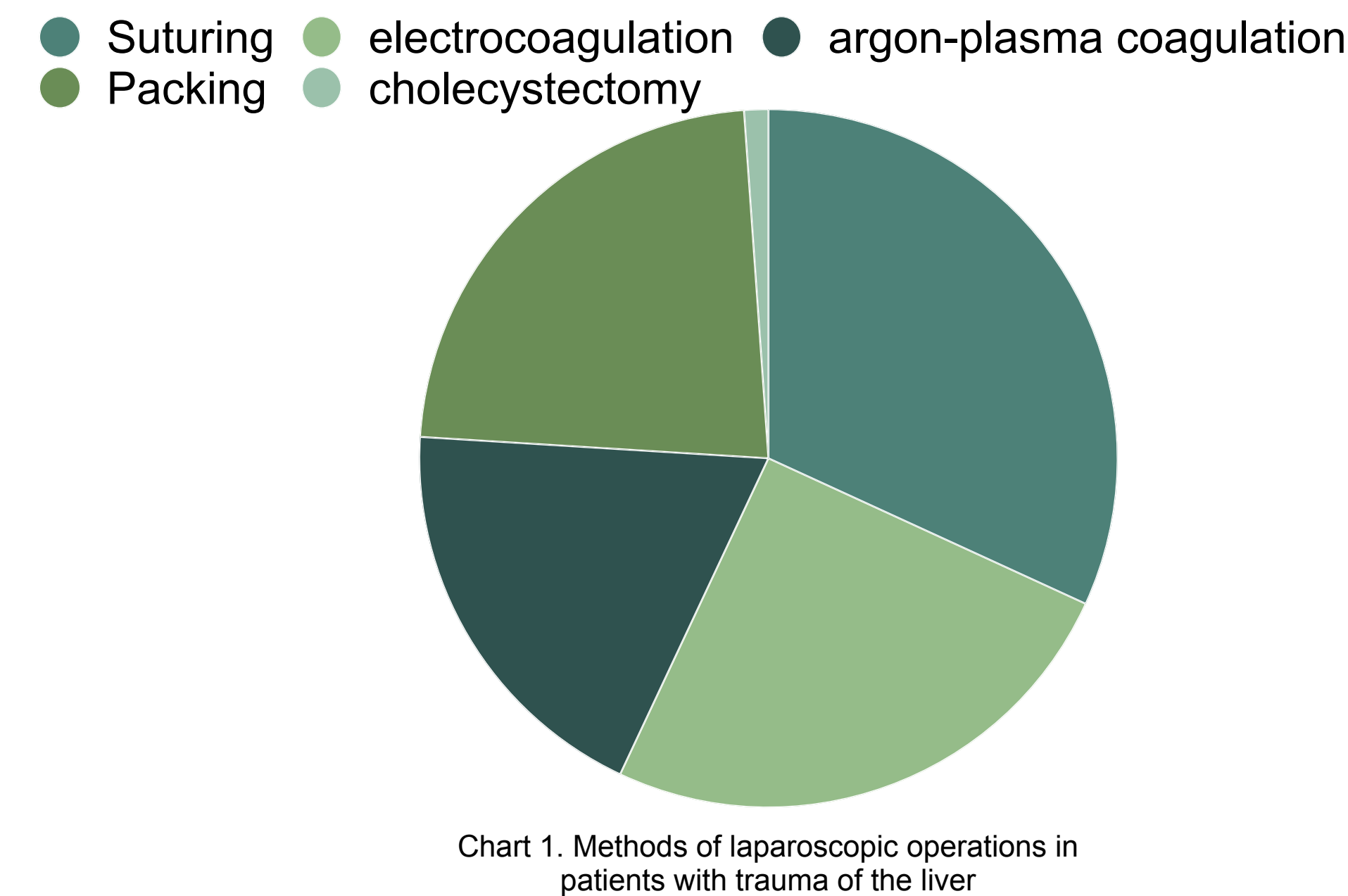
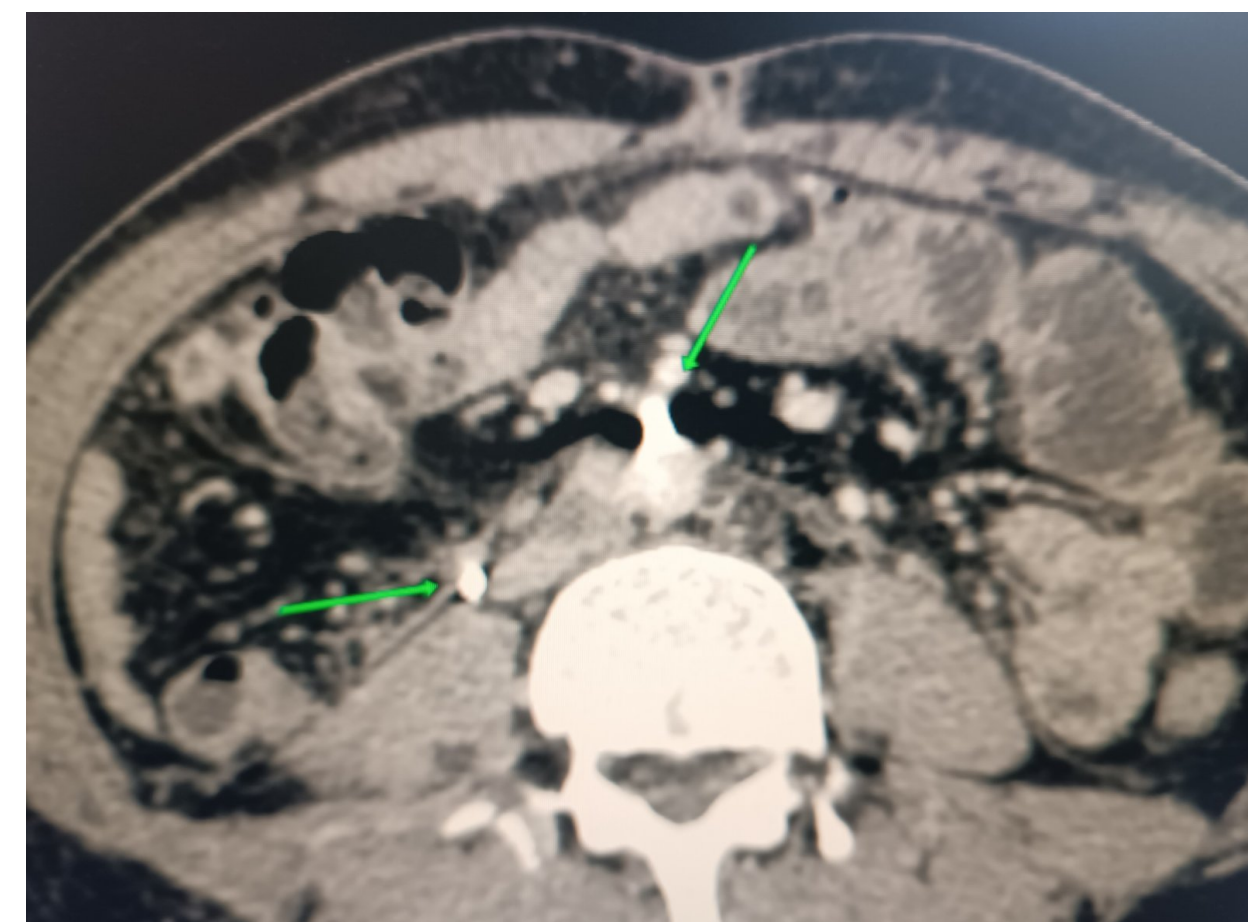


Photo 1



CONCLUSIONS

For patients with abdominal trauma laparoscopy is a useful tool to avoid an unnecessary laparotomy in stable patients. Bleeding from minor injuries of the liver or the spleen can be controlled through the laparoscopy. Laparoscopic operations in patients with mixed trauma and abdominal blunt trauma decrease mortality and number of postoperative complications. Future developments in minimally invasive surgery will allow a wider usage of laparoscopy for diagnosis and treatment of abdominal trauma.

CONTACT INFORMATION

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