

Use of laparoscopy in penetrating anterior abdominal stab wounds: State of the art in 2013

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Background: Initially, the evaluation of peritoneal violation in hemodynamically stable patients was seen as the greatest benefit of laparoscopy for trauma. Improvements in laparoscopic training and technology have enabled an increase in the use of diagnostic and therapeutic procedures in patients with penetrating anterior abdominal stab wounds. The purpose of this study was to evaluate the feasibility of diagnostic and therapeutic laparoscopy and the limitations of these procedures.

Materials and methods: A retrospective review of all patients with penetrating anterior abdominal stab wounds undergoing diagnostic or therapeutic laparoscopy was performed from 2003 to 2011.

Results : Laparoscopy was performed in 16 patients during the study period. The average age was 22 years. Injuries included left diaphragm in 3 patients, small bowel injury in 3, and mesenteric laceration, liver laceration, gastric injury and colon injury in 1 patient each. Diagnostic laparoscopy was performed in 10 patients (62.5%) with 3 patients requiring conversion to an open procedure. Successful therapeutic laparoscopy was performed in 6 patients for repair of isolated diaphragm injuries (3), a small bowel injury (1), gastric injury (1), hepatic injury (1). Only one patient had a missed injury (duodenal injury). Average length of stay was 4 days (range, 1 to 13), and all patients were discharged home.

Conclusion: Laparoscopy is feasible and safe for the diagnosis and treatment of hemodynamically stable patients with abdominal stab wounds. It can reduce the non-therapeutic laparotomy rate and shorten the length of hospital stay. On the other hand, there are particular anatomical sites and structures which are prone to error and missed injury.

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