

Infection Rate After Open Reduction and Internal Fixation of Pelvic Ring Injury with Concomitant Acute Bladder Repair

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Purpose: The purpose of this study was to identify the infection rate in patients who underwent open reduction and internal fixation of an anterior pelvic ring injury with concomitant bladder repair.

Methods: We retrospectively reviewed consecutive patients with combined anterior pelvic ring injuries and bladder injuries due to blunt trauma at a single tertiary trauma center. Those treated with open reduction and internal fixation of the anterior pelvis and open repair of the bladder between 2009 and 2021 were included. We collected age, gender, ISS, injury mechanism, OTA classification of the pelvic ring injury, and type of bladder injury. Primary outcome was 90-day surgical-site infection defined as need for surgical debridement of the anterior pelvic wound. Secondary outcome included early loosening of hardware with need for revision of fixation within 90 days of definitive fixation.

Results: A total of 201 patients presented with combined anterior pelvic ring injury and bladder injury, 53 of whom underwent fixation of the anterior pelvis and the repair of the bladder injury. Average age for the included patients was 42.2 years. There were 39 males and 14 females. The most common mechanism of injury was motorcycle crash with 23 patients. There were 44 extraperitoneal, 3 intraperitoneal, and 6 combined bladder injuries. 16 patients (30.2%) underwent embolization on presentation to the emergency room. 13 patients (24.5%) required an exploratory laparotomy prior to definitive fixation of the pelvis and the bladder. Three patients (5.8%) developed a deep infection anteriorly requiring a surgical debridement. Two patients with a deep infection underwent an exploratory laparotomy prior to fixation of the pelvic ring and repair of the bladder. No patients required revision of fixation within 90 days.

Conclusion: This is the largest single-center study looking at patients undergoing open reduction and internal fixation of anterior pelvic ring injuries with concomitant bladder repair in the literature. There was a 5.8% deep infection rate. This infection rate is consistent with previous literature reporting on patients with pelvic ring injuries and with or without concurrent bladder injuries. We conclude that acute open reduction and internal fixation of the anterior pelvic ring with acute bladder repair is safe and that the infection rate is consistent with the literature.