

Isolated Pulmonary Contusion: A Retrospective Analysis from the National Trauma Data Bank



Delbrynth P Michao, MD, Morgan Schellenberg, MD, Kazuhide Matsushima, MD, FACS, Lydia Lam, MD, FACS, Subarna Biswas, MD, FACS, Demetrios Demetriades, MD, FACS, Kenji Inaba, MD, FACS
LAC+USC Medical Center, Los Angeles, CA

INTRODUCTION: The physiologic impact and outcomes associated with isolated pulmonary contusion (PC) are not well characterized as clinically significant PC is often associated with concurrent severe chest injuries. The purpose of this study was to identify the predictors of poor outcome in isolated PC.

METHODS: This is a retrospective review of patients who sustained isolated PC from the NTDB (2007-2016). Patients who were dead on arrival, transferred, with extra-thoracic injuries AIS>3, or with other associated chest injuries were excluded. Multivariate logistic regression was used to identify independent predictors for mortality.

RESULTS: From 1,411,477 patients with blunt chest trauma, 4.8% had isolated PC. The median age was 33 (IQR 24-48) and 72.9% were male. 21.3% required mechanical ventilation (MV) with a median duration of 3d (IQR 1-8). Patients on MV had longer hospital and ICU length of stay (10d vs 3d and 5d vs 2d, $p<0.001$), and higher overall complications (24.9% vs 2.5%, $p<0.001$), with pneumonia and ARDS as the most common (14.6% vs 1.1% and 8.9% vs 0.5%, $p<0.001$). The independent predictors for MV were age>65, male sex, SBP<90mmHg, HR>120bpm, GCS<9, bilateral lung involvement, and ISS>15 (OR 1.568, 1.198, 2.882, 2.504, 37.898, 1.430, 2.605, respectively, $p<0.001$). Patients on MV had higher overall mortality (8.8% vs 0.8%, $p<0.001$). MV was an independent predictor for mortality (OR 4.437, $p<0.001$).

CONCLUSION: In isolated pulmonary contusion, old age, hemodynamic instability, and bilateral lung involvement were independent predictors for the need for mechanical ventilation, which was found to be associated with higher complication and mortality.

Laparoscopy vs Laparotomy in the Management of the Anterior Abdominal Stab Wounds According to 2018 WTA Algorithm: Systematic Review



Desire Pantalone, MD, FACS, Alessio Crocetti, MD, Gianni Virgili, MD, Giovanni Alemanno, MD, Gherardo Maltinti, MD, Alessandro Bruscano, MD, Annamaria Di Bella, MD, Veronica Iacopini, MD, Jacopo Martellucci, MD, Paolo Prosperi, MD
Azienda Ospedaliero Universitaria Careggi, Firenze
Sätra vårdcentral- Karolinska Institutet, Stockholm
University of Florence, Firenze
University of Florence- Azienda Ospedaliero Universitaria Careggi, Firenze

INTRODUCTION: The study is a systematic review on the treatment of anterior abdominal stab wounds (AASW) according to the WTA 2018 algorithm. Emergent laparotomy (EL) and laparoscopy, (diagnostic laparoscopy DL and therapeutic laparoscopy TL) have been studied. The definition of the anterior abdomen is the main selection criterion.

METHODS: The PRISMA checklist was chosen for preparation. Penetrating abdominal trauma, stab wounds, laparotomy, laparoscopy, anterior abdominal wall were used. The Cochrane database of systematic reviews and references of relevant publications were also searched. The adult population was also a criterion. The definition of anterior abdomen reported by WTA in 2018 must be present. Clinical cases, reviews and proceedings of meetings and conferences, guidelines have been excluded. The quality of the studies and analyzes was assessed according to the New Castle Ottawa scale.

RESULTS: The initial search identified 1,271 articles, 549 were duplicate. A search in the Cochrane library found only one review about treatment of penetrating abdominal trauma in general. A final group of 8 papers were selected, all observational. A total of 805 pts were examined. 287 underwent diagnostic laparoscopy and 49 underwent TL .247 pts were converted into laparotomy. Data metaanalysis was performed according to the Newcastle Ottawa scale.

CONCLUSION: Although biases are present, laparoscopy has been confirmed as a reliable procedure in the diagnosis and treatment of AASW lesions in hemodynamically stable patients. However, technology improvements and better familiarity with laparoscopy are present. More randomized clinical trials are needed to confirm these results

Le Fort III Fractures are Associated with Mortality in the Elderly Trauma Population



James K Choi, MD, MA, Abbas Smiley, MD, PhD, Elizabeth Zellner, MD, Rifat Latifi, MD, FACS FICS
Westchester Medical Center - New York Medical College, Valhalla, NY

INTRODUCTION: True Le Fort fractures are rare overall. There is a lack of data on outcomes of complex facial fractures in the elderly. The aim of this study was to analyze the severity of Le Fort fractures within the elderly trauma population and their association with mortality.

METHODS: A retrospective study was performed on the 2016 American College of Surgeons - Trauma Quality Improvement Program (ACS - TQIP) database to identify all adult patients who sustained Le Fort I, II, and III fractures. Patients were subdivided into 4 age groups: ≤ 64 years, 65 - 74 years, 75 - 84 years, and ≥ 85 years. Multivariable logistic regression was conducted to assess the association of mortality and type of Le Fort fracture after adjusting for age, gender, race, type of cerebral hemorrhage, and concomitant cranial fractures.