

## Low Energy Mechanism in Pelvic Trauma at Elderly

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**Abstract :** Introduction: Pelvic trauma causes high mortality, particularly among the elderly population. Pelvic injury ranges from low-energy incidents such as falls to high-energy trauma like motor vehicle accidents. The mortality rate among high-energy trauma patients is higher, as can be expected. The elderly population is more vulnerable to pelvic trauma even at low energy mechanisms due to the fragility and diminished physiological reserve of these patients. The aim of this study is to examine whether there is a higher long-term mortality in pelvic injuries in the elderly from the low-energy mechanism than those injured in high energy. Methods: A retrospective cohort study was conducted in a level 1 trauma center with injured patients aged 65 years and over with pelvic trauma. The patients were divided into two groups of low and high-energy mechanisms of injury. Multivariate analysis was conducted to characterize the differences between the groups. Results: There were 585 consecutive injured patients over the age of 65 with a documented pelvic injury who were treated at the primary trauma center between 2008-2020. The injured in the high energy group were younger (mean HE- 75.18, LE-80.73), with fewer comorbidities (mean 0.78 comorbidities at HE and 1.28 at LE), more men (52.6% at HE and 27.4% at LE), were consumed more treatments facilities such as angioembolization, ICU admission, emergency surgeries and blood products transfusion and higher mortality rate at admission (HE- 19/133, 14.28%, LE- 10/452, 2.21%) compared to the low energy group. However, in a long-term follow-up of one year after the injury, mortality in the low-energy group was significantly higher (HE- 14/114, 12.28%, LE- 155/442, 35.06%). Discussion: Although it can be expected that in the mechanism of high energy, the mortality rate in the long term would be higher, it was found that mortality at the low energy patient was higher. Apparently, low-energy pelvic injury in geriatric patients is a measure of frailty in these patients, causes injury to more frail and morbid patients, and is a predictor of mortality in this population in the long term. Conclusion: The long-term follow-up of injured elderly with pelvic trauma should be more intense, and the healthcare provider should put more emphasis on the rehabilitation of these special patient populations in an attempt to prevent long-term mortality.

**Keywords :** pelvic trauma, elderly trauma, high energy trauma, low energy trauma

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