

Early intramedullary nailing of major long bone fracture does not compromise respiratory function in multiple injured patients

Lauri Handolin, Jarkko Pajarinen, Jan Lassus, Ilkka Tulikoura

Helsinki University Central Hospital / Töölö hospital, Helsinki, Finland

Major long bone fractures, such as femur and tibia fractures, are a common comorbidity in multitraumatized patients sustaining high energy injuries. The timing of osteosynthesis, especially intramedullary nailing, has been the matter in dispute for last two decades. The established benefits of early operative fixation of long-bone fractures in reduction of pulmonary complications incidence, like adult respiratory-distress syndrome (ARDS), fat embolism syndrome (FAS) and pneumonia have yet been challenged in multiple trauma patients with severe thoracic injury. In this retrospective study we evaluated our policy of early intramedullary nailing by analysing the charts of all consecutive 61 multitrauma patients admitted to our trauma ICU in Töölö hospital from January 2000 to June 2001, if they fulfilled the following criteria: uni- or bilateral pulmonary contusion (thoracic AIS ≥ 3), and mechanical ventilation. 27 patients (44%) had a diaphyseal fracture of at least one long bone of the lower extremity treated with intramedullary nailing in the early phase (≤ 24 hrs from admission). We found no statistical difference in ventilator days, PO_2/FiO_2 - ratios, ARDS, pneumonia or multi organ failures. In conclusion, our results suggest that intramedullary nailing of a long bone fracture in a multitraumatized patient does not compromise respiratory function.