

ABSTRACT

Objective: to evaluate the value of serum levels of CC16 as a diagnostic and prognostic utility in patients with polytrauma and relate these levels to respiratory complications compared to plasma levels of healthy control group.

Subjects and Methods: A prospective cohort study was carried out on one hundred and fifty Patients with polytrauma (blast, blunt, and penetrating) who admitted to intensive care units of Maadi and Kobry El Kobba Military Hospitals, Cairo, Egypt, during from June 2016 and June 2019. Full history taking, clinical examination, radiology investigations, laboratory investigations, CC16 protein and other inflammatory biomarkers were investigated.

Results: There was no statistically significant difference between both groups as regarding age ($p=0.09$), comorbid conditions ($p>0.05$), glasgow coma scale ($p=0.09$), ABACHE II score ($p=0.07$) and abbreviated injury scale ($p=0.08$). along the 5 days there was a significantly higher CRP level, neutrophil leucocytic ratio in group 1. PO₂ level was significantly higher in the 1st 2 days in group II than group I. CT chest scan revealed the presence of lung contusion in 30 patients, haemothorax in 20 patients and pneumothorax in 25 patients all in group I. Also, there was a statistically significant difference on day 0 between both groups with much higher serum CC 16 in group I than group II while on day 3 the difference was insignificant. Whereas, respiratory complications were significantly higher serum and BAL level of CC16 on day 3 while this difference was insignificant on day 0.

Conclusions: These findings showed that we may benefit from detecting serum CC16 levels in polytrauma victims in prediction of respiratory complications.

Key words: acute lung injury, Clara cell protein 16, inflammatory biomarkers, polytrauma, respiratory complications