



## Greater Polytrauma Complications Risk in Diabetics



Patients with diabetes are at a greater risk of developing complications including mortality after polytrauma compared to those that do not have previous comorbidities, according to findings published in BMC Medicine. While there is no internationally standardised definition, polytrauma refers to a condition where a person has been subjected to multiple traumatic injuries. These could range from head injury to burns. Trauma itself is considered to be a pandemic, accounting for approximately 16,000 deaths a day worldwide.

Researchers in the UK recommend that the targeted monitoring and early identification of patients that have suffered three or more injuries to one anatomical region of the body can go a long way in improving outcomes in this subgroup.

In an interview with Endocrine Today, Dr. Peter V. Giannoudis, of the Department of Trauma and Orthopaedic Surgery at the University of Leeds in the UK, said, "The systemic effect of polytrauma on patients with diabetes should not be underestimated. Endocrinologists need to be vigilant when monitoring their patients in a polytrauma setting."

Along with James Teddy and other colleagues, Giannoudis analysed data collected from the Trauma Audit and Research Network. Data was gathered for 2222 patients who had sustained polytrauma and were further filtered on the basis of known outcomes, diagnosis and past medical comorbidities. The identified patients included those who had suffered polytrauma during 2003 to 2011. The sample population included 2222 patients with diabetes, 2558 patients with no past medical comorbidities (PMCs) and without diabetes and 2709 with PMC and without diabetes. All these patients presented with an age, gender and injury scores (AIS) of 3 more in two or more body regions. The patient population was older in the diabetes group and overall there were more men than women involved in this analysis. Mortality in this study was defined as death within 30 days of injury from any cause within the initial hospital presentation or during subsequent readmission for management of the same injury.

The findings indicated that complication rates were higher in patients with diabetes. These include renal failure, myocardial infarction, acute respiratory distress syndrome, pulmonary embolism and deep vein thrombosis. The study found that diabetic patients have a greater chance of developing common complications including infections, thromboembolic events, and renal failure after being involved in polytrauma. In most cases, once patients develop these complications, their outcomes become poor and their capacity to compensate for their injuries goes down. The mortality rates in the diabetes group were shown to be much higher at 32.4% as compared to 12.9% in patients with no medical comorbidities.

Giannoudis recommends that greater focus should be placed on good glycaemic control, especially in the case

of a head injury. He says that complications should be anticipated based on injury patterns and intervention prompt. Previous literature as well as the findings from this study supports the conclusion with respect to poor outcomes for diabetic patients with polytrauma. Higher rate of overall mortality as well as a higher level of complications was noted in diabetic patients. It is thus imperative to identify and monitor such patients at an early stage for improved outcomes.

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Published on : Mon, 21 Jul 2014