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**Temporal changes in Interleukin-1beta and Tumor necrosis factor alpha serum levels after spinal cord injury**

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There are still no effective, curative strategies for treating SCI and management involves lifelong care and rehabilitation, which has severe social and economic consequences for patients and their families. In recent years, researchers have investigated therapies that limits damage directly after injury by targeting cytokines believed to be a cause of cellular damage. A first step towards these therapies, however, is understanding exactly how cytokines respond to SCI. The present study tracked the course of TNF- $\alpha$  and IL-1 $\beta$  after SCI in order to better delineate this process. Data were analyzed for the entire collective and according to group i.e. patients with neurological improvement and patients without neurological improvement. Significant findings showed that neurological improvement appeared to be correlated with lower levels of TNF- $\alpha$  in the first week, especially in the first 72h. This may suggest that reducing TNF- $\alpha$  in this early phase of injury could have some benefit for the patient; however, more studies are needed to answer this question. No significant findings were found in comparing IL-1 $\beta$  between groups. Limitations to this study included the small sample size and limitations to the AIS classification system. Though the prognostic value of the methods used in this study was not determined, the results do imply that measuring cytokine expression patterns after SCI is meaningful to explore and potentially useful in developing innovative approaches for treating acute and sub-acute SCI.