Author’s response to reviews

Title: FEV1 and FVC and Systemic Inflammation in a Spinal Cord Injury Cohort

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We agree with Dr. Battaglia that this is an important theoretical issue in regards to the etiology of the release of CRP and IL-6, particularly in a cross-sectional study such as this. This is one key reason we adjusted for level and severity of injury in our models. We believe that the question of specifically what causes the CRP and IL-6 release is beyond the score of this paper, with its focus on the impacts of inflammation on pulmonary function. However, we have recently had a paper accepted for publication in Spinal Cord entitled “Clinical Factors Associated with C-Reactive Protein in Chronic Spinal Cord Injury” where identifying predictors of inflammation was the main goal. We have included details of this paper in the revised discussion, as well as additional text noting that this theoretical issue can’t be determined in this analysis.

Page 12, paragraph 2: “Since chronic SCI is not known to be a condition characterized by pulmonary inflammation, it is likely that systemic inflammation following SCI is a function of decreased mobility, pressure ulcers, bladder dysfunction, and increased adipose tissue.38,39 Once these factors that occur after SCI are accounted for, we have previously found that level and completeness of SCI is not associated with CRP.38,39 However, since systemic inflammation is associated with muscle weakness and frailty, it is possible that systemic inflammation could adversely affect respiratory muscle performance and contribute to reduced pulmonary function.40-43”
Therefore, although level and completeness of SCI clearly was responsible for the physiologic changes post SCI that caused CRP and IL-6 release, it did not directly cause CRP and IL-6 release. We also note that we are not implying that CRP and IL-6 cause lung damage. We speculate that systemic inflammation could adversely affect respiratory muscle performance and contribute to reduced pulmonary function.

We have made the following additional edit to the discussion in regards to the population served at VA Boston (see last paragraph of discussion)

“We have small numbers of female and minority participants, reflecting the distribution in the population served at VA Boston”