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| **Ongoing Inflammation Doesn't Relate to Disease Severity After Sars-Cov-2 Infection** |
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| **Introduction/Aim:** Sars-Cov-2 patients are known to have ongoing sequelae after acute infection. This may result in prolonged airway inflammation. We hypothesise that severity of COVID19 acute infection, as defined on the NIH COVID19 severity scale, predicts the level of airway inflammation measured using exhaled nitric oxide (FeNO).  **Method:** Patients had FeNO (Medisoft FeNO+) and spirometry (MGC, Minnesota, USA) measured after recovery from acute illness. Mean and IQR reported. MannWhitney test used for comparison.  **Results:** We studied 105 patients (53 females, Age: 50[18-81] years, BMI: 30[19-58] kg/m2; median [IQR]). FeNO inflammation is defined as 0-25ppm = normal, 25-50 = intermediate inflammation, >50ppm = high. 70 patients had experienced mild-moderate COVID-19 (NIH category 1-2), 35 had severe-critical disease (NIH category 3-5). Of the NIH 1-2 group, 63% (44/70) had normal FeNO, 24% (17/70) intermediate FeNO, 13% (9/70) high FeNO. Of the NIH 3-5, 69% (24/35) normal, 26% (9/35) intermediate FeNO, 6% (2/35) high FeNO. There was no difference in inflammation values between the mild and severe groups  (p>0.5). Spirometry was normal in the mild NIH group (FEV1: 99 [61-129]% pred, FVC 96 [62-125] %pred) with 1/70 with reduced FEV1/FVC ratio (below LLN) and in the severe NIH group (FEV1: 86 [53-124]% pred, FVC 84 [48-113] %pred) with 0/35 reduced FEV1/FVC ratio. Post bronchodilator, spirometry significantly improved in 4/70 in mild group and 0/35 in severe group. Spirometry values were not significantly different between the groups (FEV1 p>0.6 ; FVC p>0.5).  **Conclusion:** These data suggest that chronic inflammation occurs after COVID19 infection but is not predicted by severity of disease in the acute phase. Spirometry did not show an increase in obstruction or reversibility. It is possible that FeNO is a more sensitive measure of ongoing COVID19 maladies than spirometry but should be correlated with symptoms for further analysis.  **Key Words:** Inflammation, Sars-Cov-2, COVID-19 **Grant Support:** Nil |