A Role for Steroids in COVID-19 Associated Pneumonitis at Six-week Follow-up?

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Word Count: 510

ANNALSATS Articles in Press. Published March 18, 2021 as 10.1513/AnnalsATS.202101-048LE

To the editor:

We read with interest the recent paper by West and colleagues [1] regarding the use of corticosteroids in persistent inflammatory interstitial lung disease (ILD) following SARS-Cov-2 infection. In their timely and well implemented observational treatment study, 3.6% of COVID-19 patients discharged from hospital were diagnosed with a persisting organising pneumonia at six weeks and deemed eligible for corticosteroid treatment. Cases were assessed in a multi-disciplinary team (MDT) meeting and lung function was performed pre- and post-treatment.

As ILD physicians in a tertiary referral centre we have extensive experience in treating organising pneumonia with corticosteroids, in the context of auto-immune disease, adverse drug reactions and infection. We agree that intuitively corticosteroids should have a role in the treatment of patients with significant parenchymal disease secondary to COVID-19. From our own large cohort, captured during a similar time frame, prior to acute corticosteroid treatment being the standard of care [2,3] the incidence of interstitial changes at six-week follow-up is comparable to these data. However, in our cohort without targeted outpatient corticosteroid administration there was significant spontaneous recovery in the majority of patients by 12 weeks. This raises the question as to whether there would have been some spontaneous recovery in these patients without any intervention, especially as there is no matched comparator group. Treatment was only offered if patients were not getting better on a weekly basis, but it is not clear how this assessment was made. It is also important to note that, although treatment was for a short duration, these patients were obese (25.7%), hypertensive (31.4%) and diabetic (22.9%), and therefore a population where steroids would

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ideally be avoided if possible.

We applaud the speed and completeness of this work, particularly in the current climate when access to aerosol generating respiratory physiology testing to robustly quantify changes is challenging. However, there is clearly equipoise about the use and timing of corticosteroid administration and how they affect the natural history of COVID-19 associated organising pneumonia. The RECOVERY trial [2] showed that dexamethasone resulted in reduced 28-day mortality in those patients requiring oxygen and is now standard of care in this cohort of patients for ten days. In a second much smaller randomised control trial (RCT) of just 68 hypoxic patients (Sp02 <90%) who were not intubated and ventilated, methylprednisolone was administered at 250mg/day for three days and showed a significant reduction in mortality [4]. We also know from this observational treatment study [1], albeit in a small number of patients, that steroids have a beneficial effect when administered at six-weeks post-discharge. Two large systematic reviews have further identified acute corticosteroid administration has a mortality benefit in patients with severe disease, but do not seem to have a significant impact at lower doses [5,6]. What is less clear is if corticosteroids should be prolonged or augmented following completion of dexamethasone and in what patient cohort and using what objective parameters.

To further address this unmet need we propose ILD physicians, respiratory and general physicians, intensivists and interested others collaborate to generate clinically valid research questions that can be answered by an RCT.

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ANNALSATS Articles in Press. Published March 18, 2021 as 10.1513/AnnalsATS.202101-048LE