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Response to COVID-19 phenotyping correspondenceCORRESPONDENCECORRESPONDENCEResponse to COVID-19 phenotyping correspondence

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From the authors:

In their letter, R. Cherian and co-workers take issue with our interpretation of the respiratory physiology of coronavirus disease 2019 (COVID-19), arguing that it is based merely on "small cohort studies", and instead declaring that "a high proportion of mechanically ventilated COVID-19 patients exhibit near-normal lung compliance". Yet the low respiratory compliance of COVID-19 patients has now been extensively demonstrated by studies totalling more than 800 COVID-19 patients [1–7], including a direct comparison with non-COVID-19 acute respiratory distress syndrome (ARDS) patients that revealed no difference in respiratory compliance [7]. In contrast, the three case series cited by R. Cherian and co-workers in support of their claim comprise cohorts of, respectively, 16, 10 and 26 patients [8–10]. Furthermore, even these case series report average respiratory compliance in COVID-19 of 40–45 $mL{\cdot}cmH_2O^{-1}$, which is in fact abnormal and far from "near-normal compliance" [11, 12]. As an informative comparison, the ANZICS (Australian and New Zealand Intensive Care Society) cohort of ARDS patients used to derive the Berlin definition of ARDS had an average respiratory compliance of 40±15 $mL{\cdot}cmH_2O^{-1}$ [13]. We thus find no evidence in the authors' citations (or elsewhere) to support their empirical claim that many or most COVID-19 patients present with "normal" or "near-normal" respiratory compliance.