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COVID-19 pneumonia and the pulmonary vasculature: a marriage made in hell

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Quantitative CT of the pulmonary vasculature is potentially important in COVID-19 associated pneumonia https://bit.ly/3vUTTRM

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Automated analysis of medical images is not new [1–3]. Researchers in the respiratory sciences and, particularly, the field of interstitial lung diseases, have long enthused about the potential for computers to analyse medical images thereby revealing "signals" hitherto invisible to the human eye: an enthusiasm only enhanced by recent developments in machine learning and artificial intelligence [4–6]. By leveraging the central importance of computed tomography (CT) scanning for diagnosis, treatment decisions and prognostication, a key aim is to identify imaging biomarkers to more accurately phenotype disease and, in so doing, move a step closer to truly patient-centric medicine. Another goal is to apply novel imaging analyses to pathogenesis, disease "behaviour" and prognostication in the hope that this might unlock new therapeutic approaches. Given the digital nature of the data and the potentially myriad imaging patterns, frequently compounded by patient, therapeutic and disease-based factors, lung imaging is ideally suited to more sophisticated analytic approaches.