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In vivo demonstration of pulmonary microvascular involvement in COVID-19 using dual-energy computed tomography

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In COVID-19 pneumonia, dual-energy computed tomography has shown two patterns of lung perfusion along the course of the disease: an increase in perfusion blood volume (PBV) with ground-glass opacities and a decrease in PBV with consolidation <https://bit.ly/2Zh0XcI>

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To the Editor:

Vascular involvement in coronavirus disease 2019 (COVID-19) has been suggested by several observations, such as the high rate of pulmonary embolism [1], the prothrombotic state and the proinflammatory biological profile [2, 3], as well as the pathological findings of severe endothelial injury and diffuse thrombosis [4]. Dual-energy computed tomography (DECT) allows specific imaging of the iodinated contrast agent distribution within the lung, which has been demonstrated as a surrogate marker of lung perfusion [5, 6]. Therefore, our goal was to assess *in vivo* pulmonary microvascular involvement in patients with COVID-19 pneumonia by using DECT and to determine whether vascular changes vary during the course of the disease.