Critical illness–associated cerebral microbleeds in COVID-19 acute respiratory distress syndrome

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A 63-year-old man developed coronavirus disease 2019 acute respiratory distress syndrome requiring mechanical ventilation and extracorporeal membrane oxygenation (ECMO). Brain MRI performed because of delirium revealed callosal and juxtacortical hematomas associated with countless and punctate cerebral microbleeds disseminated in the corpus callosum and along the gray/white matter interface (figure).

This pattern, only detected by blood-sensitive MRI sequences, is typical of critical illness–associated cerebral microbleeds (CI-aCMB), a rare condition reported in patients with acute respiratory failure, requiring mechanical ventilation, and sometimes undergoing ECMO.1 Even though the pathophysiologic mechanisms remain unknown (probably related to severe hypoxemia), a relatively high proportion of CI-aCMB published cases are induced by influenza.2-4 In this patient infected with severe acute respiratory syndrome coronavirus 2, we postulate a possible contribution of a viral-related endotheliopathy.

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Figure Brain MRI

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Appendix
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<th>Name</th>
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<tr>
<td>Octave Cannac</td>
<td>Hôpitaux Universitaires de Marseille</td>
<td>Drafting and revision of manuscript for intellectual content</td>
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<td>Revision of manuscript for intellectual content</td>
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References

COVID-19 and Neurologic Disease: Call for Papers!
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