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A 29-year-old woman with a sickle cell disease was admitted for severe vaso-occlusive crisis, acute respiratory distress syndrome and acute pulmonary hypertension refractory to conventionnal therapy. She was placed on venoarterial extracorporeal membrane oxygenation (va-ECMO) and remained comatose after ECMO removal. Brain magnetic resonnance imaging found a cytotoxic edema within the splenium callosum and microbleeds (Fig. 1), and after few days, patient neurological condition improved, with regression of the splenial lesion (Fig. 2). Diagnosis of reversible splenial lesion syndrome (RESLES) associated with ECMO was finally retained. RESLES is a rare cause of unexplained coma, associated with favorable neurological outcome. On the basis of our research, this is the first description of RESLES association with ECMO support in literature.

Figure Legends

Figure 1:

Magnetic resonance imaging after extracorporeal membrane oxygenation withdrawal : (A) Axial fluid-attenuated inversion recovery (FLAIR) imaging showing hypersignal involving the splenium of the corpus callosum ; (B) Diffusion-weighted imaging (DWI) showing hyperintensity involving the splenium of the corpus callosum with low apparent diffusion coefficient ; (ADC) (C) Susceptibility weighted magnetic resonance sequences (SWAN) showing widespread subcortical microbleeds in the white matter, predominating in subcortical U fibers.

Figure 2:

Magnetic resonance imaging 1 month later:

(A) Axial fluid-attenuated inversion recovery (FLAIR) imaging showing total regression of the previous splenial lesion; (B) Diffusion-weighted imaging (DWI) is normal (C) Susceptibility weighted magnetic resonance sequences (SWAN) showing partial microbleeds resorption.

Declarations

Ethics approval and consent to participate

In accordance with the ethical standards of our hospital's Institutional Review Board (Committee for the Protection of Human Subjects) and current French law, informed consent for demographic, physiological and hospital-outcome data analyses was not obtained because this observational study did not modify existing diagnostic or therapeutic strategies. Nonetheless, patients and/or relatives were informed about the anonymous data collection and told that they could decline inclusion. This database is registered at the Commission Nationale l'Informatique et des Libertés (CNIL, registration no. 1950673).

Consent for publication

Not applicable

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