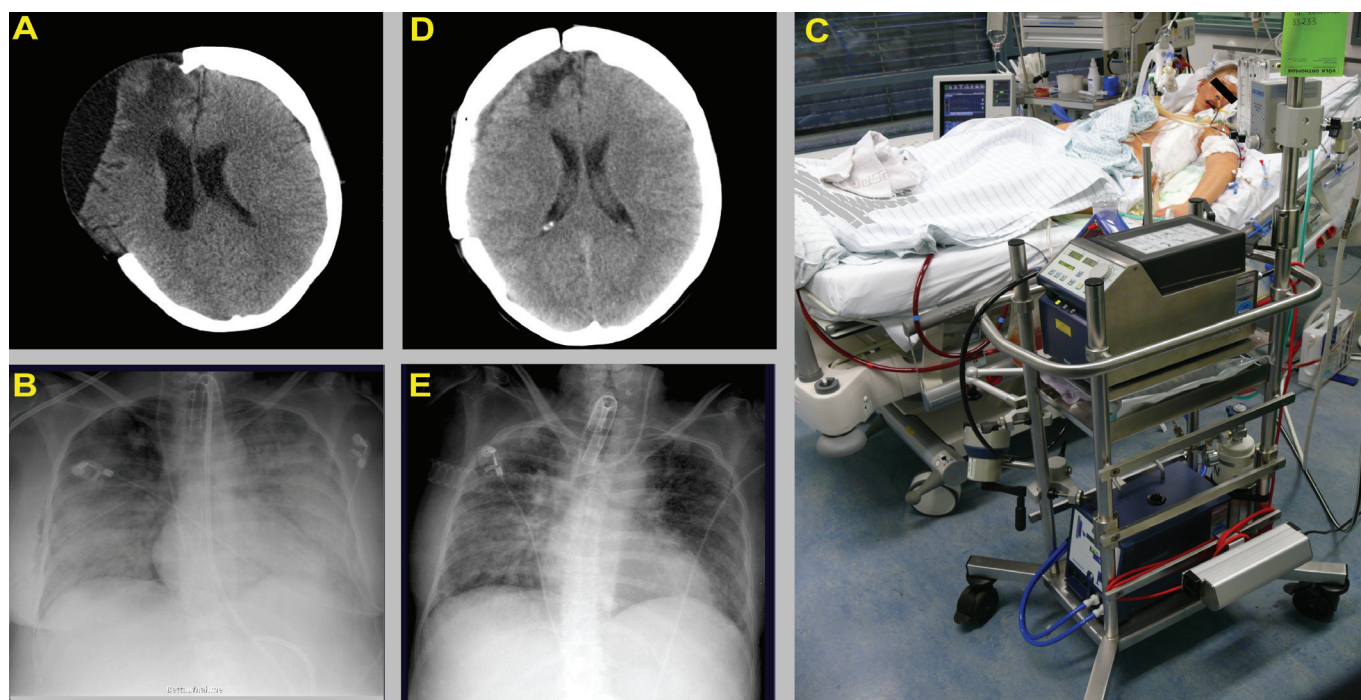


One Hundred Ten Days of Extracorporeal Membrane Oxygenation in a Young Woman with Postpartum Cerebral Venous Thrombosis and Acute Respiratory Distress Syndrome

Thomas Strecker, MD, Frank Münch, Michael Weyand, MD

Center of Cardiac Surgery, Friedrich-Alexander-University Erlangen-Nuremberg, Erlangen, Germany



ABSTRACT

Extracorporeal membrane oxygenation (ECMO) is often the last resort for serious acute respiratory distress syndrome (ARDS) when all non-invasive treatment options have failed to improve the patient's pulmonary condition. We present a successful long-term therapy with ECMO over 110 days in a 28-year-old woman. She developed postpartum cerebral venous thrombosis with severe respiratory insufficiency. Veno-venous ECMO rescued this young patient, allowing for full recovery.

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Correspondence: Dr. Thomas Strecker, Center of Cardiac Surgery, Friedrich-Alexander-University Erlangen-Nuremberg, Krankenhausstrasse 12, 91054 Erlangen, Germany; +49-9131-85-33985; fax: +49-9131-85-36088 (e-mail: thomas.strecker@uk-erlangen.de).

CASE REPORT

After an uneventful pregnancy, a 28-year-old woman delivered her third healthy infant by spontaneous vaginal delivery. One day postpartum, she noted progressive headaches associated with neurological deficits. Computed tomography (CT) showed cerebral venous thrombosis with adjacent cerebral infarction of the right frontal lobe, for which reason a craniotomy was performed. Head CT scans showed increased edema in the right frontal lobe. The right calvarium was removed to decompress the brain (Figure, panel A). Postoperatively, the patient's pulmonary status progressively deteriorated over the subsequent 2 weeks, and she developed severe acute respiratory distress syndrome (ARDS). Chest radiography showed pulmonary infiltrations on both sides (Figure, panel B). The woman was placed on veno-venous extracorporeal membrane oxygenation (ECMO) via femoro-femoral vein access, with heparin dose targeted at activated clotting time (ACT) 160 to

180 seconds, partial thromboplastin time (PTT) 50 to 60 seconds, and blood flow 2.5 to 3.0 L/min. Venous ECMO (Maquet Cardiopulmonary AG, Hirrlingen, Germany) was initiated using 17 French short cannula in the left femoral vein (out-flow cannula) and a 17 French long cannula in the right femoral vein (inflow cannula) (Figure, panel C). She had multiple microbial infections over the next 3 months. She was gradually weaned from ECMO, which was discontinued on day 110. Subsequently, her neurological status and respiratory failure improved over the next 6 weeks. Postoperative CT scans showed that edema on the right frontal lobe had subsided. The right calvarium was reimplanted (Figure, panel D). One hundred ten days after ECMO-support, chest radiography showed significant recovery of the lungs (Figure, panel E). Currently, she is at home with her family, doing very well.

There many reports on ECMO therapy, but to our

knowledge, this is the first report of long-term support over 110 days on ECMO in a young patient with postpartum cerebral venous thrombosis and ARDS with survival [Antonelli 2012; Brodie 2011; Nair 2011].

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