# Hemofiltration during extracorporeal membrane oxygenation

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Haemofiltration has already been shown to improve fluid balance in children treated with extracorporeal membrane oxygenation (ECMO) but now researchers writing in BioMed Central's open access journal *Critical Care* have reported that continuous haemofiltration significantly reduces ECMO duration in newborns.

Dr Tibboel and his team at the Erasmus MC Sophia Children's Hospital, The Netherlands, compared the time spent on ECMO, time until extubation after decannulation, mortality and potential cost reduction in 15 patients with haemofiltration and 46 control patients. All patients showed similar severity of illness before ECMO with congenital diaphragmatic hernia and meconium aspiration syndrome the most frequent illnesses.

The authors found that not only was time on ECMO significantly decreased in the haemofiltration group (98h as opposed to 126h) but the haemofiltration patients also needed fewer blood transfusions and that fluid balance per day was significantly lower.

Given that haemofiltration can easily be run by the ECMO personnel, there are no additional personnel costs. The estimated amount saved by the shorter stay in intensive care, coupled with the need for fewer blood transfusions, is over €5000 per patient.

Haemofiltration is thought to mitigate against the inflammatory effects and complications of ECMO, including capillary leakage syndrome,

which can lead to fluid imbalance, hypotension and, ultimately, organ failure.

Dr Tibboel concludes: "Adding continuous haemofiltration to the ECMO circuit in newborns improves short term outcomes by significantly reducing time on ECMO and by a possible reduction of systemic inflammatory response syndrome and capillary leakage syndrome. Given the fact that 30 patients per year receive ECMO treatment in our institution, a €150.000- cost reduction per year could be accomplished."

More information: Haemofiltration in newborns treated with extracorporeal membrane oxygenation: a case-comparison study, Karin Blijdorp, Karlien Cransberg, Enno D Wildschut, Saskia J Gischler, Robert Jan Houmes, Eric D Wolff and Dick Tibboel, Critical Care (in press), ccforum.com/

Source: BioMed Central (news : web)