

Recent publications

Following you find a brief abstract of a scientific publication concerning LEUKOCARE's technologies. Please find the full text article at the given reference.

ASAIO J. 2005 Mar-Apr;51(2):144-7.

First efficacy and safety results with the antibody containing leukocyte inhibition module in cardiac surgery patients with neutrophil hyperactivity.

SCHOLZ M, CINATL J, BARROS RT, LISBOA AC, GENEVCIOUS CF, MARGRAF S, FRANCISCHETTI I, OREMEK G, WINDOLF J, SIMON A, MORITZ A, BITU-MORENO J.

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Systemic administration of immune modulating antibodies may play an important role in reducing neutrophil hyperactivity, for example, in patients undergoing cardiac surgery with extracorporeal circulation or in trauma patients. However, this strategy has extremely high costs and is often associated with severe adverse effects. We developed the Leukocyte-Inhibition-Module (LIM), an extracorporeal circulation (ECC) device housing a polyurethane matrix with covalently bound Fas (CD95; APO-1) stimulating antibodies to rapidly prevent neutrophil hyperactivation. A feasibility study with 14 patients undergoing cardiac surgery with the use of immunogenic ECC without (n = 5) and with (n = 9) LIM (venous line) was performed. Our data show that the usually observed ECC associated perioperative increase in neutrophils (control) was prevented by LIM (p = 0.023). Moreover, the increase of the proinflammatory markers tumor necrosis factor (TNF)-alpha and polymorphonuclear elastase was limited by LIM (p = 0.038 and p = 0.002). In both groups, no significant changes in liver enzymes or in clotting were detected after surgery, and up to 12 months follow up, no unusual complications were reported. This study shows for the first time to our knowledge the feasibility, efficacy, and safety of a new cost effective, immune management strategy in patients with aberrant immune activation by exposing the blood stream to immobilized agonistic anti-Fas antibodies.