

Adacolumn®

For Granulocyte and Monocyte Adsorption (GMA) apheresis of patients with IBD



Adacolumn®

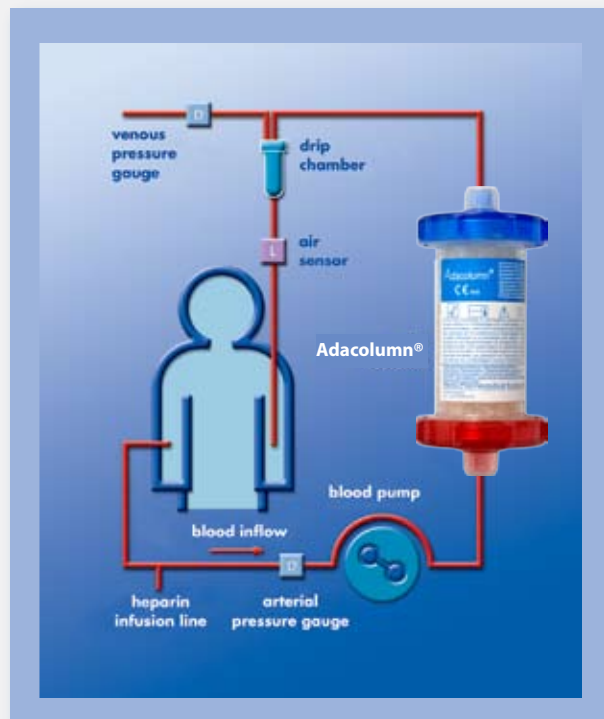
What is Adacolumn®?

Adacolumn® is a CE-marked medical device for selective granulocyte-monocyte/macrophage apheresis (GMA). It contains cellulose acetate beads bathed in physiologic saline. As blood passes through the Adacolumn®, granulocytes and monocytes/macrophages that are known to promote inflammatory bowel disease are adsorbed to the beads and hence removed from the streaming blood.

What is treatment with Adacolumn®?

The treatment is performed using the Adasystem, which consists of the Adacolumn®, Adamonitor and Adacircuit. For treatment with Adacolumn® two venous accesses are

needed, via simple venopuncture, one in each of the patient's arms. The venous blood passes through the Adacolumn® where activated granulocytes and monocytes/macrophages are removed and the blood returns to the patient via the second venopuncture in the opposite arm. The extracorporeal



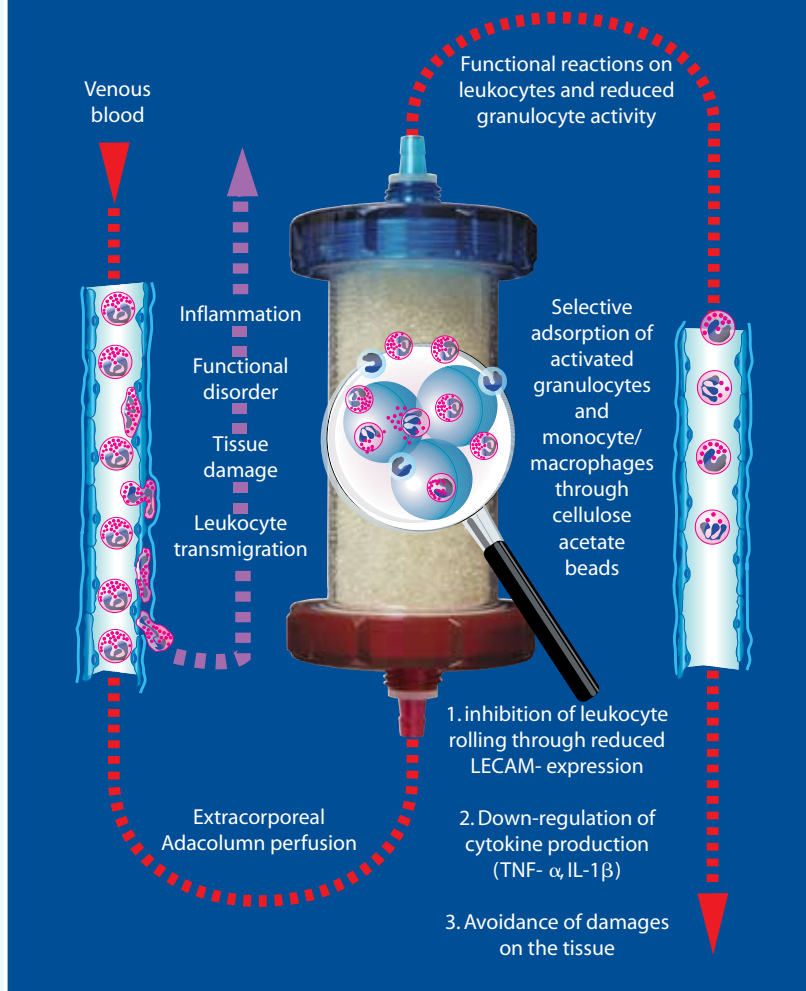
flow rate is ca. 30 ml/min and the general duration of one treatment session is 60 min. A small dose of heparin is used as an anticoagulant to ensure a good bloodflow through the Adasystem.



Adasystem

A gentle revolution in IBD therapy

The immunomodulatory reactions after leukocytapheresis



How does Adacolumn® work?

Adacolumn® selectively adsorbs granulocytes, monocytes/macrophages by Fc γ and complement receptor bindings. Approximately 65% of granulocytes and 55% of monocytes from the blood that passes through the column are adsorbed. However the total number of blood cells remains constant as the removed cells are rapidly replaced by mobilisation of inactive, CD⁻¹⁰ negative leukocytes. This means that apheresis with Adacolumn® has rather a qualitative than quantitative effect, i.e. activated leukocytes are replaced by inactive cells. Additionally, Adacolumn® is associated with

sustained down-modulation of pro-inflammatory cytokines like TNF- α , IL-1 β , IL-6 and IL-8 released by blood leukocytes together with downmodulation of L-selectin and the chemokine receptor CXCR3 which mediate migration of leukocytes from the blood into the inflammatory tissue.

Ref: Saniabadi A, Hanai H, Löfberg R et al. Adacolumn, an adsorptive carrier based granulocyte and monocyte apheresis device for the treatment of inflammatory and refractory diseases associated with leucocytes. *J of Clinical Apheresis* 2005; 20: 171-184.