Plasmapheresis in Patients with Familial Hypercholesterinemia

Plasmapheresis (PA) is used in combined therapy of patients with familial hypercholesterinemia (FHChS), homozygous and heterozygous (refractory to medicamentous hypolipidemic therapy).

PA is performed in those cases when, due to some reasons, one does not manage to organize performing of selective apheresis of low-density lipoproteins.

LDL-apheresis is considered to be an optimal type of extracorporeal therapy of the FHChS, however, this type of treatment does not always happen to be available, first of all because of its high cost.

<table>
<thead>
<tr>
<th>INDICATIONS</th>
<th>CONTRAINDICATIONS</th>
<th>CRITERIA OF EFFICIENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypercholesterinemia</td>
<td></td>
<td>✓ Reduction of the concentration of ChS LDL by 30-40% from the initial level</td>
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<tr>
<td>High level of cholesterol of low-density lipoproteins (ChS LDL)</td>
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<td>✓ Improvement of microcirculation</td>
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<td>High level of lipoprotein (a)</td>
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## PLASMAPHERESIS IN CARDIOLOGY

### PLASMAPHERESIS IN PATIENTS WITH ARTERIAL HYPERTENSION

Plasmapheresis (PA) is applied in combined therapy of patients with arterial hypertension, refractory to multicomponent medicamentous therapy, as a rule, of malignant evolution. PA procedures allow to:

- improve blood microcirculation
- reduce its thrombogenic and atherogenic potentials (reducing the concentration of fibrinogen, lipoprotein (a), homocysteine, cholesterol and cholesterol of low-density lipoproteins, triglycerides)
- de-block the receptors of cellular membranes of vascular walls, eliminating in such a way the phenomenon

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<tr>
<td>➢ Hypertension (AD &gt; 140/90 mms of Hg column)</td>
<td>✓ Reduction of systolic and diastolic arterial pressure by 10-15%</td>
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<tr>
<td>➢ Refractoriness to hypotensive medicinal preparations</td>
<td>✓ Restitution of sensitivity to medicamentous therapy (achievement of target levels of .AD &lt; 140/90 mms of Hg column)</td>
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<tr>
<td>➢ Hyperviscosity of blood</td>
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<tr>
<td>➢ Hypercoagulation</td>
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<td></td>
</tr>
<tr>
<td>➢ Hypercholesterinemia</td>
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<tr>
<td>➢ Increased level of pressure agents (catecholamins, aldosterone, angiotensin II)</td>
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PLASMAPHERESIS IN CARDIOLOGY

PLASMAPHERESIS
IN ISCHEMIC HEART DISEASE

Application of extracorporeal methods of treatment (EMT) in ischemic heart disease (IHD) is intended at:
- correcting the metabolism (normalizing the indicators of lipid metabolism, the state of the coagulating system of blood) and blood viscosity
- improving of microcirculation
- increasing of perfusion capacity of the myocardium and tolerance to medicamentous therapy

All the EMT applied for fighting IHD, possess the ability to eliminate macromolecular compounds, that is, rank among methods of rheopheresis. One of the most simple and available EMT, which allows to effectively eliminate macromolecular structures, is plasmapheresis (PA).

PA procedures are used in patients with disorders of lipid metabolism (hypercholesterinemia, hyperlipoproteinemia, hyperfibrinogenemia, accompanied by hyperviscosity, and others), in case of hypercoagulation, if there is no possibility to apply more selective methods of rheopheresis.

PA is also used in case of inefficacy of medicamentous, in the course of preparation for operative intervention or stenting, for preventing relapses of stenocardia and in inoperable patients, because of the thrombosis of the distal coronary bed in these patients. The most selective and efficient methods of rheopheresis are cascade plasma filtration, heparin-LDL precipitation (HELP) and LDL and Lp (a) immunosorption.

INDICATIONS
- High frequency and intensity of stenocardia attacks
- Refractoriness to medicinal preparations
- Hyperviscosity
- Hypercoagulation
- Increased level of atherogenic lipoproteins, including LDL, Lp(a) and triglycerids

CONTRAINDICATIONS
- Unstable hemodynamics with a level of AD below 80 mms of Hg column
- Internal bleeding
- Allergy to the components of the procedure

CRITERIA OF EFFICIENCY
- Reduction of the frequency and intensity of pain attacks
- Reduction of the level of the necessary medicamentous therapy
- Increase of tolerance of physical exertion
- Reduction of the quantity of extrasystoles
- Normalization of the level of atherogenic lipoproteins
- Reduction of the level of fibrinogen, elimination of hyperviscosity, improvement of rheology of blood
- Increase of fibrinolitic activity of blood
- Increase of saturation of haemoglobin and of partial pressure of oxygen in arterial and venous blood with simultaneous reduction of partial pressure of carbon dioxide of the blood

For more information visit our web site: www.plasmatech-fzc.com or contact us by e-mail: plasmatechfzc@aol.com