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PREVENTION AND TREATMENT OF RENAL TRANSPLANT ACUTE REJECTION WITH DOUBLE FILTRATION PLASMAPHERESIS

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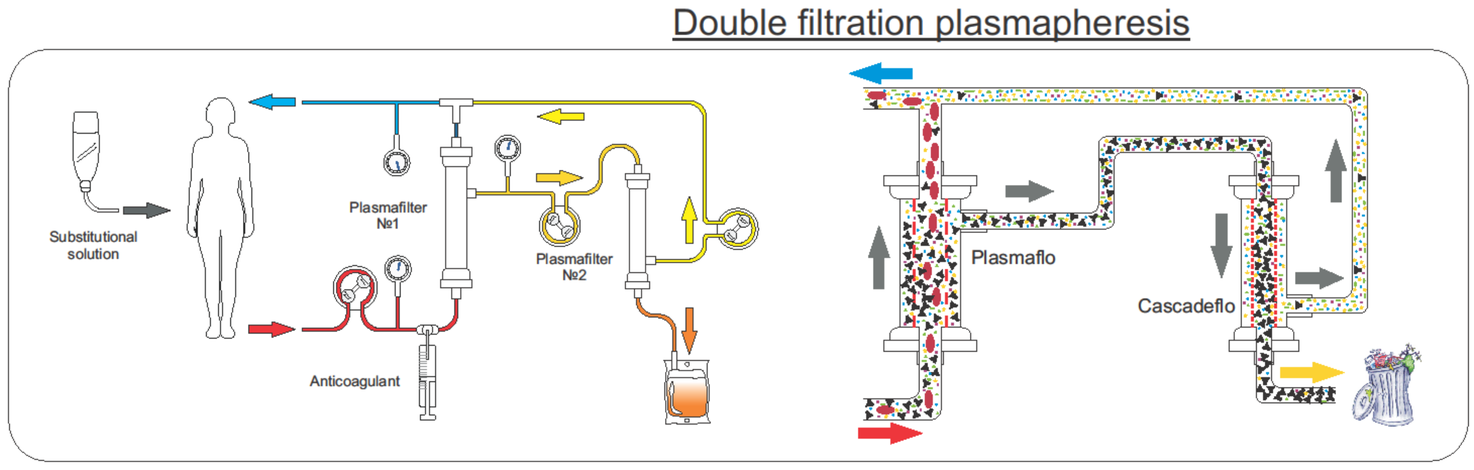
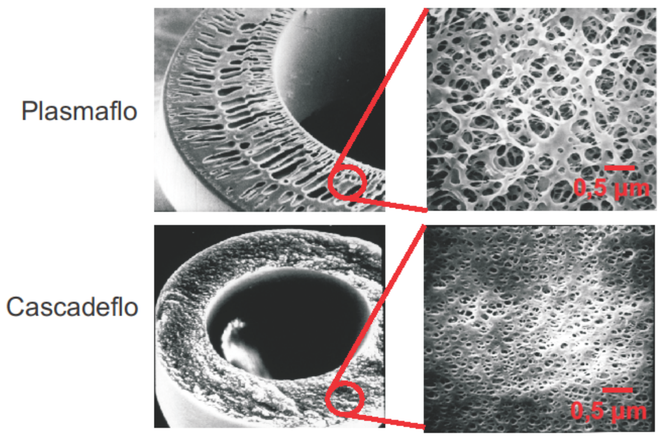
Acute rejection is a major cause of renal graft loss.

The “graft-host” conflict is partially caused by the circulating pre-existing antibodies.
Highly sensitized patients have a greater risk of rejection and subsequent graft loss. There are several methods to remove the anti HLA-antibodies. Double filtration plasmapheresis (DFPA) is the most advanced.

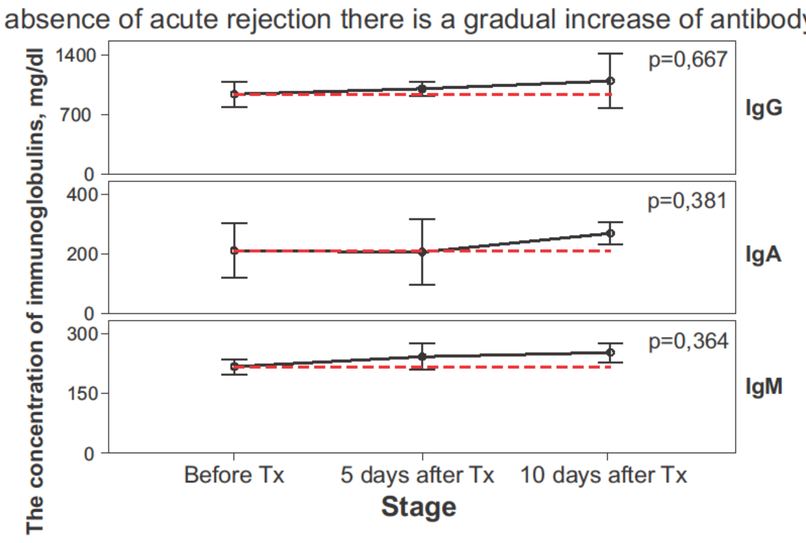
Primary aim: to evaluate the effectiveness of DFPA in preventing of acute renal graft rejection in recipients of high immunologic risk.
Secondary aim: to compare DFPA with traditional (filtration) plasmapheresis (PA).

Double filtration plasmapheresis

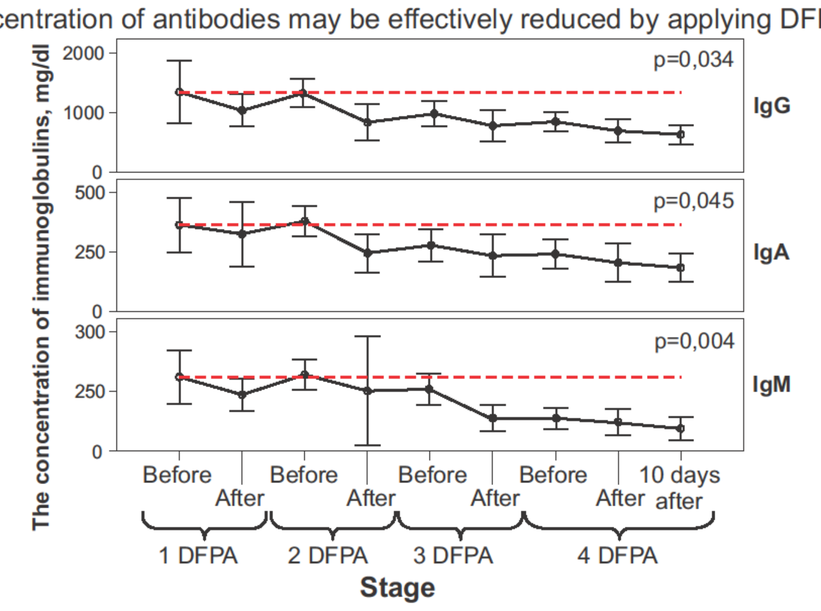




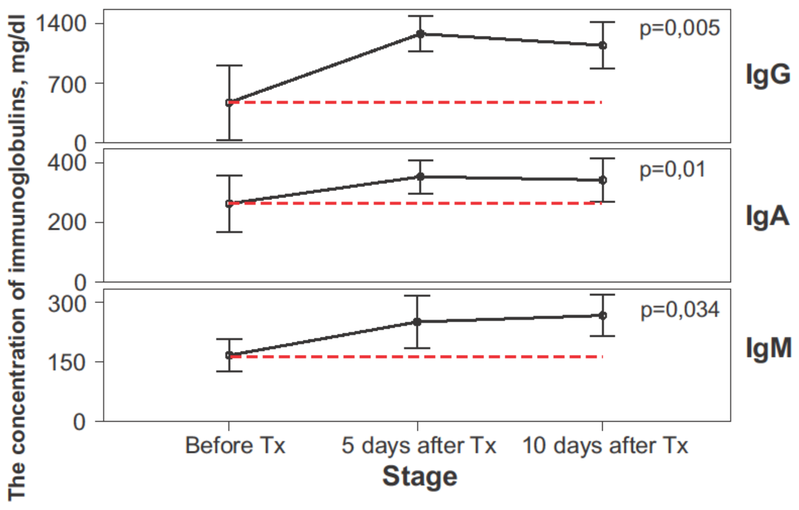
1. Even in the absence of acute rejection there is a gradual increase of antibody concentration.



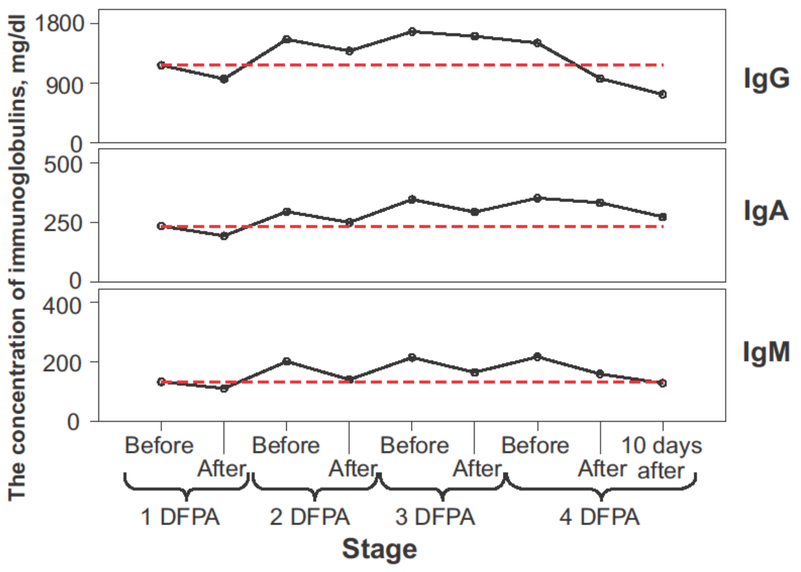
2. The concentration of antibodies may be effectively reduced by applying DFPA



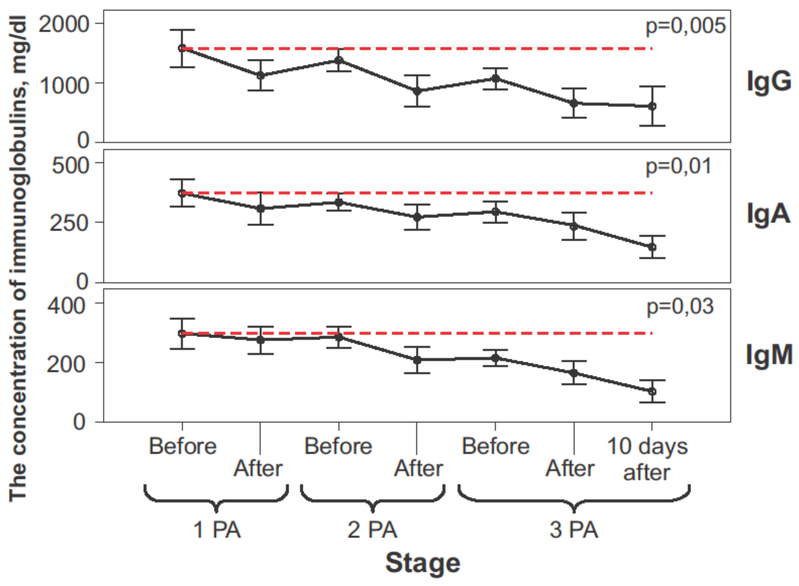
3. There was a significant increase in the concentration of antibodies in the case of acute graft rejection



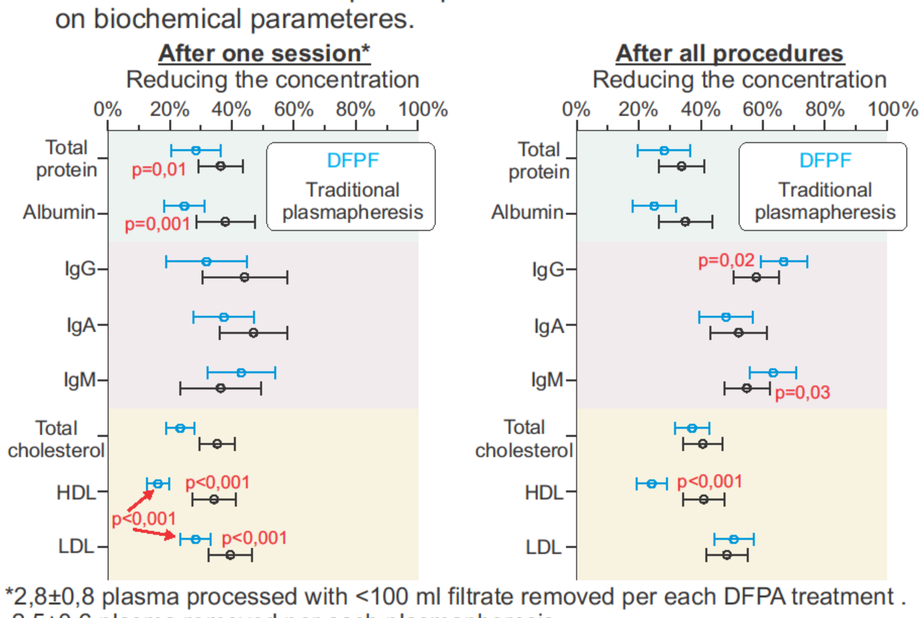
4. Using DFPA there was no significant increase of antibody concentration in case of acute renal graft rejection.
Furthermore - there was a decrease in antibody concentration after all 4 procedures.



5. Traditional plasmapheresis also has a great potential in reducing of circulating antibodies concentration.



6. DFPA and traditional plasmapheresis have different influence on biochemical parameteres.



*2,8±0,8 plasma processed with <100 ml filtrate removed per each DFPA treatment .
2,5±0,6 plasma removed per each plasmapheresis.

Conclusion

1. There has been an increase of circulating antibodies after renal transplantation, that indicated the activation of humoral immunity.
2. Traditional DFPA and plasmapheresis have a great potential in reducing the concentration of circulating antibodies.
3. DFPA treatment removes circulating antibodies more effectively than traditional plasmapheresis with less loss of total protein and albumin.
4. DFPA removes LDL more effective, however removes HDL less agressive than traditional plasmapheresis.

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