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CORRECTION OF THE RENAL TRANSPLANT ISCHEMIA/REPERFUSION INJURY WITH CYTOKINES ADSORPTION

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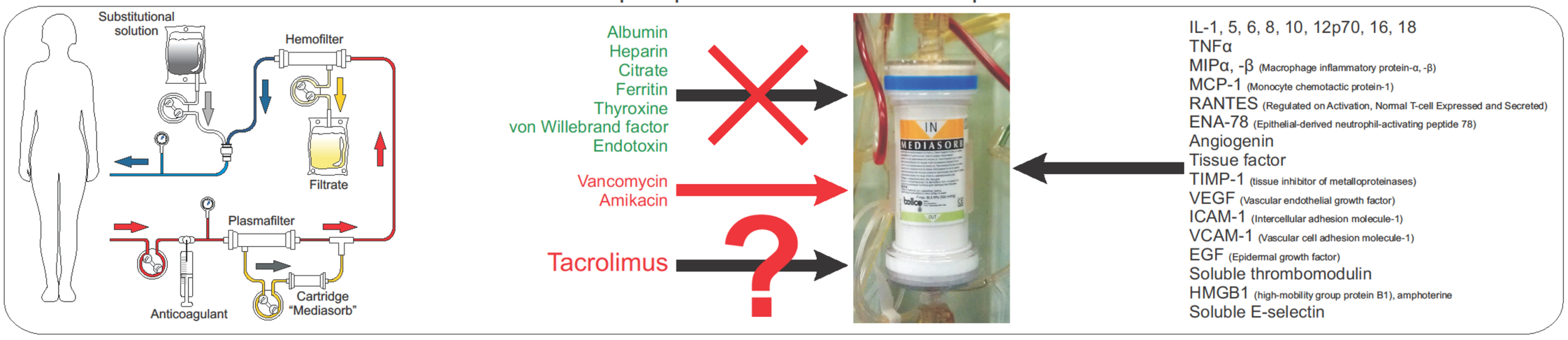
Renal transplant is inevitably damaged by ischemia and reperfusion syndrome.

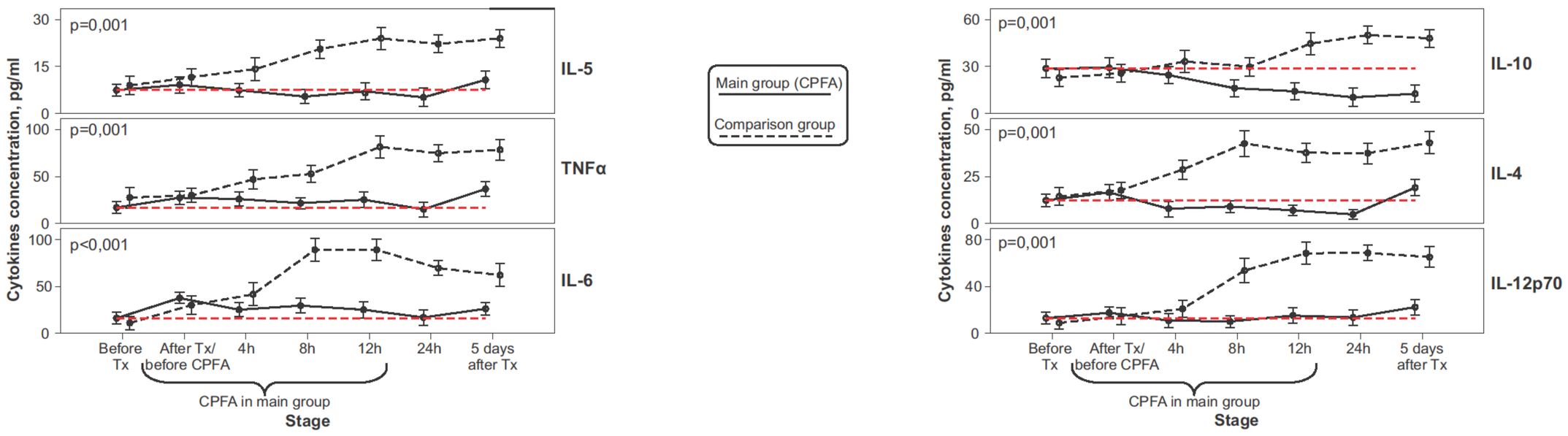
Cytokines play an important role in the development of ischemia / reperfusion injury.
Renal graft functional status may be improved by selective removal of cytokines with CPFA and hemofiltration.

Primary aim: to evaluate the effectiveness of CPFA treatment in reducing the severity of ischemic and reperfusion injury of renal allografts which were received from expanded criteria donors.
Secondary aim: to evaluate impact of the CPFA treatment on tacrolimus blood concentration.

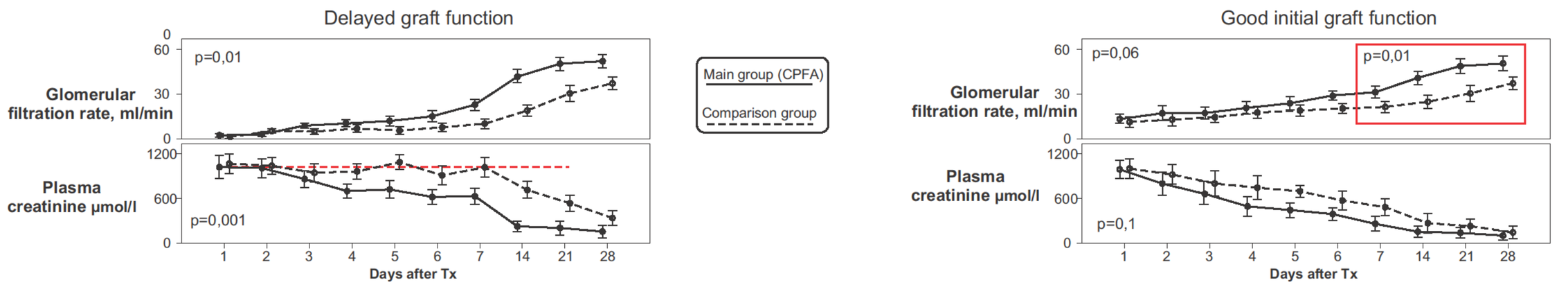
Coupled plasma filtration and adsorption



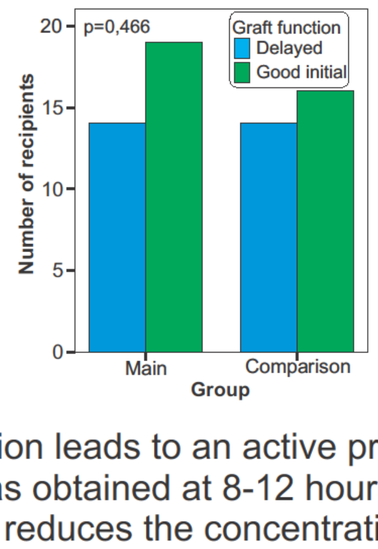
1. There was a significant increase in the concentration of cytokines after transplantation. CPFA can effectively reduce the concentration of circulating cytokines. Moreover, even on the fifth day after transplantation the concentration of cytokines was lower than in the comparison group.



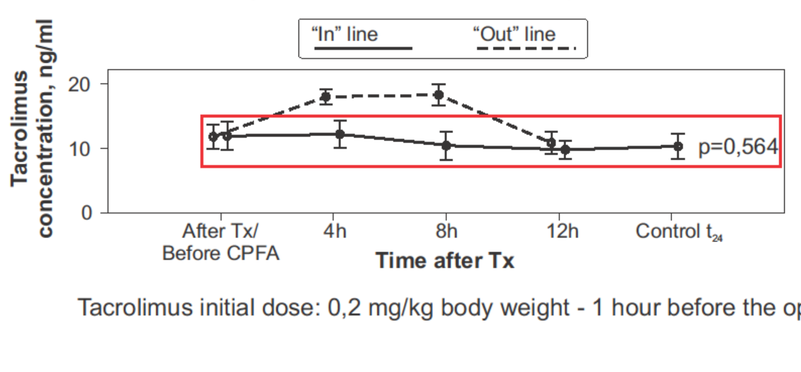
2. CPFA in early postoperative period has improved the renal graft function. It was mostly expressed in patients with delayed graft function.
Main group patients with good initial graft function in 2-4 weeks also had significantly higher glomerular filtration rate.



3. CPFA can improve the renal graft function,
but does not change the character of the initial function.



4. The effect of CPFA on tacrolimus blood concentration was not significant.
The increase concentration of tacrolimus in the "out" line can be caused by hemofiltration in dehydratation mode in some patiets.



Tacrolimus initial dose: 0,2 mg/kg body weight - 1 hour before the operation start.

Conclusion

1. Renal transplantation leads to an active production of pro- and antiinflammatory cytokines.
   Maximum peak was obtained at 8-12 hours after transplantation.
2. CPFA significantly reduces the concentration of pro- and antiinflammatory cytokines.
3. There was lower cytokine concentration in main group even 5 days after transplantation.
4. CPFA did not significantly increased the number of patients with good initial graft function.
5. As a result of administration of CPFA treatment immediately after surgery renal graft function was improved: higher GFR, lower creatinine blood concentration.
6. The affect of CPFA on the tacrolimus blood concentration was not significant, this procedure may be safe in renal transplant recipients.

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