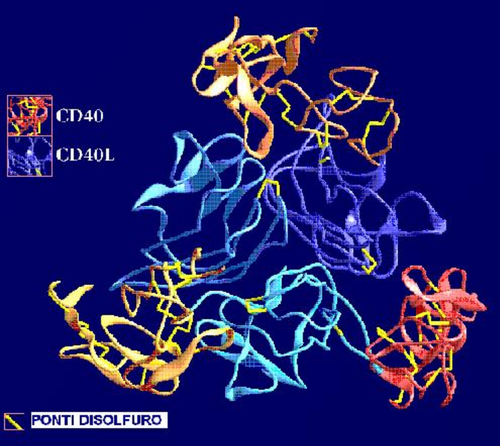

POLYMETHYLMETHACRYLATE (PMMA) REDUCES SCD40L PLASMA LEVELS IN HEMODIALYTIC PATIENTS. RESULTS FROM A PRELIMINARY STUDY

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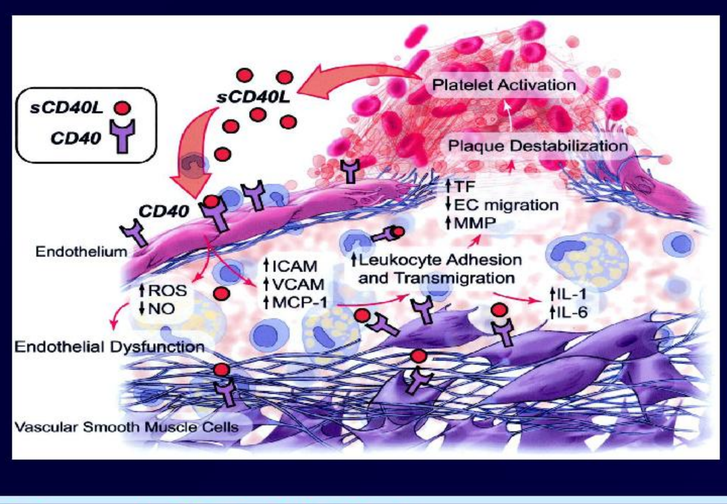
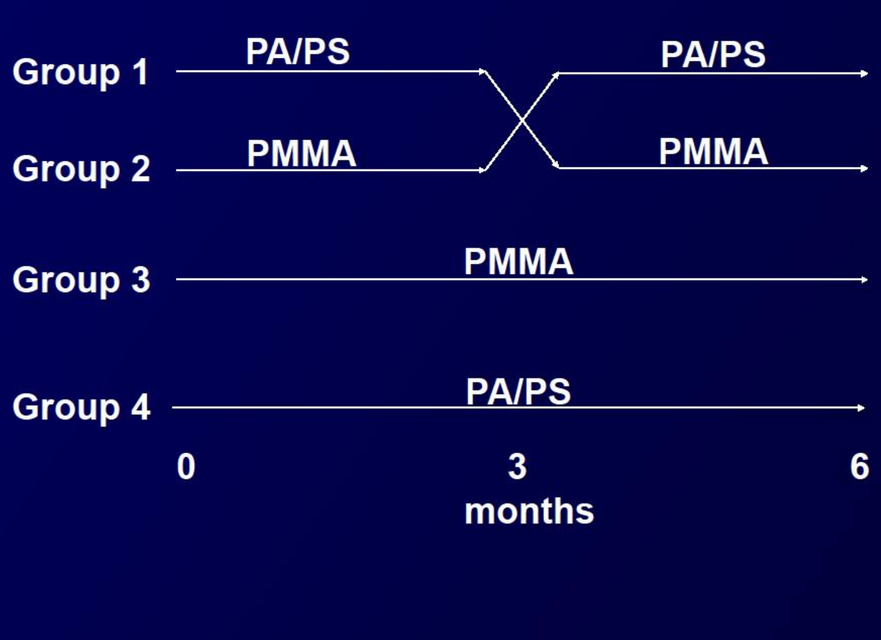
INTRODUCTION AND AIM

Soluble CD40L (sCD40L) is a well-known proinflammatory and proatherogenic agent. The RISCAVID study demonstraed an increased cardiovascular risk in patients with sCD40L serum levels exceeding 7.6 ng/ml. The aim of our study was to evaluated the effect of different hemodialysis membranes on sCD40L levels in hemodialytic patients (HD).



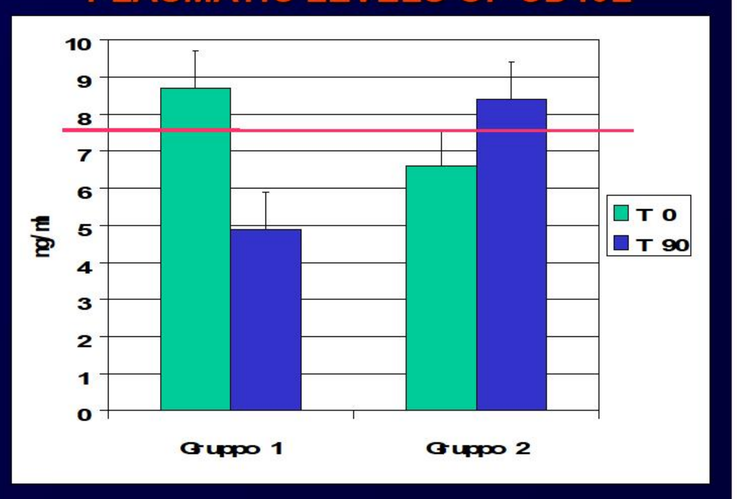


STUDY POPULATION and METHODS

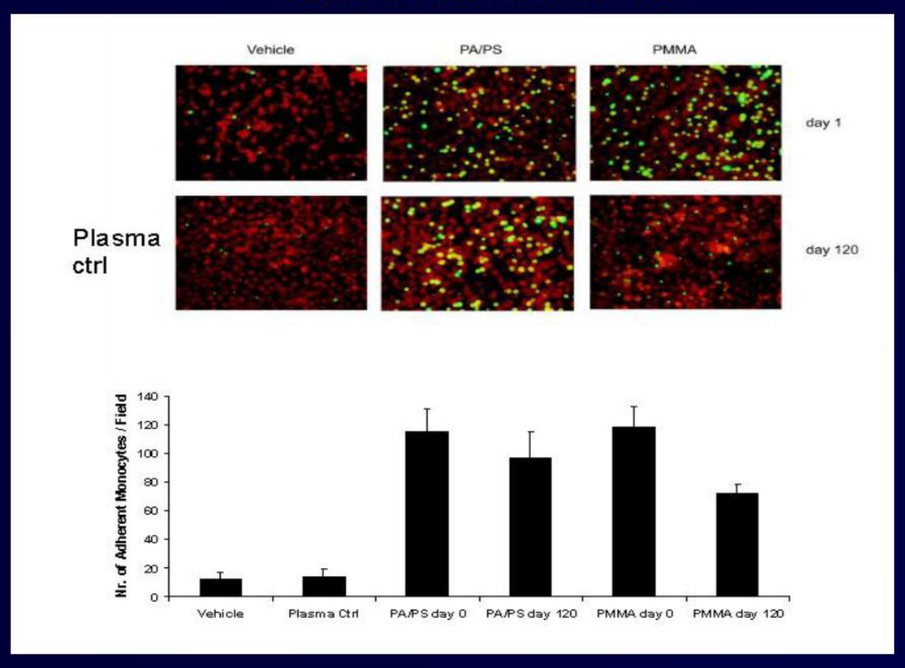
Twenty-three stable HD patients were randomized as follow: Group 1. Nine patients were dialyzed for three months with Polyamide (PA) or polysulfone (PS) membranes and then shifted (time 0) in polymethylmethacrylate (PMMA) membrane for a further three months; Group 2. Six patients were dialyzed for three months with PMMA membrane and subsequently shifted to PA / PS for a further three months; Group 3 and 4, eight patients were maintained in PMMA or PA / PS membrane. We measured the sCD40L serum levels (ELISA) at times 0 , 30, 60 and 90 days. Furthermore, to investigate inflammation and apoptosis induced by uremic serum, HUVEC cells were incubated with serum of patients of group 1 and 2.

RESULTS

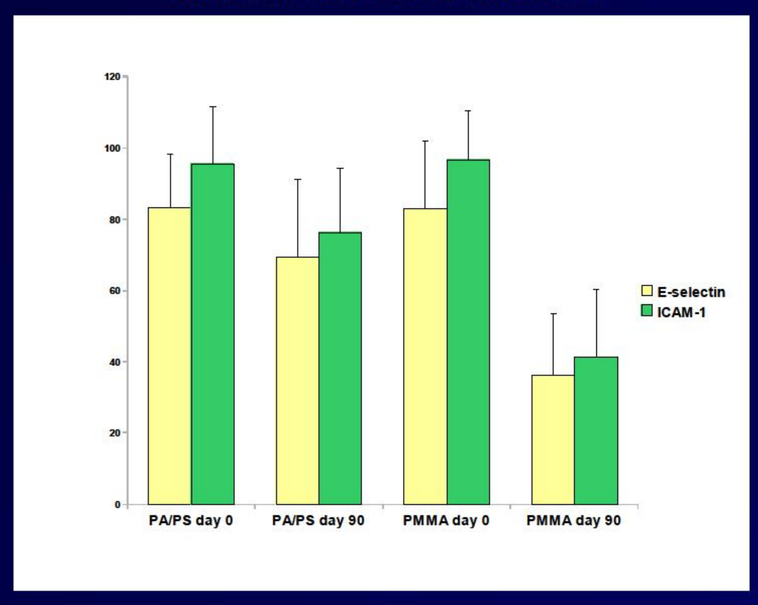
PLASMATIC LEVELS OF CD40L



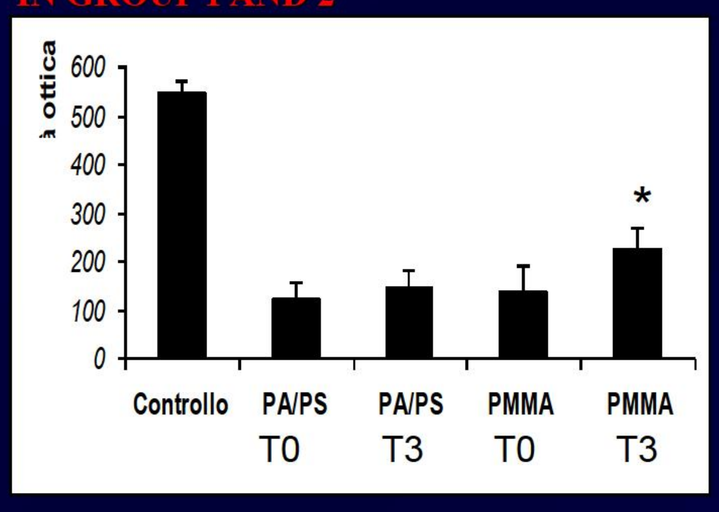
MONOCYTE ADHESION



ENDOTHELIAL EXPRESSION OF ICAM-1 AND E-SELECTIN



SURVIVAL OF ENDOTHELIAL CELLS INCUBATED WITH SERA OF PATIENTS IN GROUP 1 AND 2



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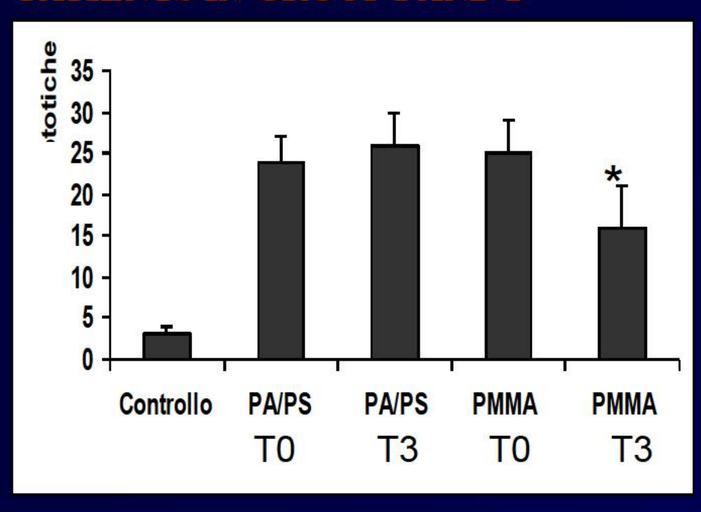
APOPTOSIS IN ENDOTHELIAL CELLS INCUBATED WITH SERA OF PATIENTS IN GROUP 1 AND 2



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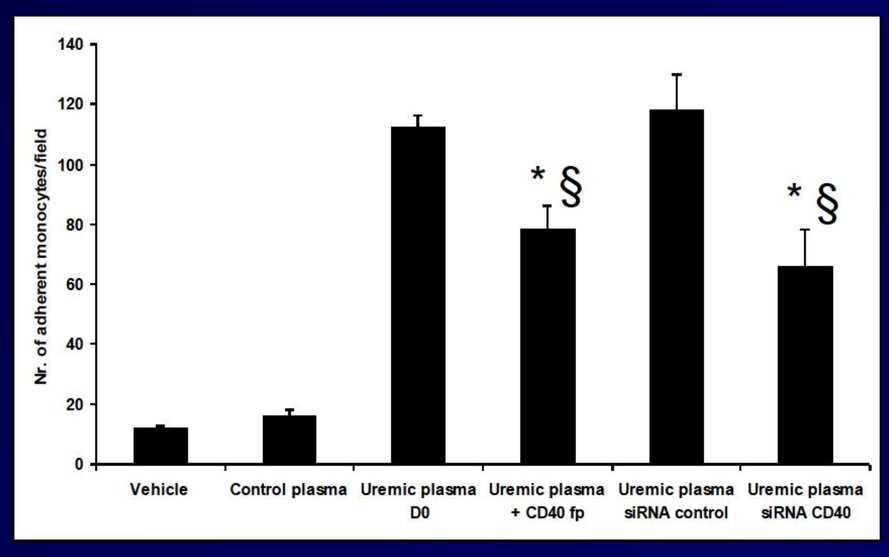
ROLE of CD40/CD40-LIGAND in MONOCYTE ADHESION



CONCLUSIONS

These preliminary data show an effect of the PMMA in the reduction of circulating sCD40L, probably due to its adsorbitive properties. This effect could reduce the cardiovascular risk in HD patients.

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M) Dialysis. M9) Protein-energy wasting, inflammation and oxidative stress in CKD 5D.
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