

# THE EFFECT OF HAEMODIALYSIS AND POST-DILUTION HAEMODIAFILTRATION ON PLATELET CLOSURE TIME IN PATIENTS WITH END-STAGE RENAL DISEASE

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**Introduction and objectives:** In patients with end-stage renal disease abnormalities in primary haemostasis are common, but less is known about the impact of different dialysis modalities on platelet function. We aimed to compare the effect of haemodialysis (HD) and post-dilution haemodiafiltration (HDF) on platelet closure time using Platelet function analyser (PFA -100).

**Methods:** 14 chronic haemodialysis patients, 86% men, participated in our prospective study. For the study purposes, the patients were treated with one HD and one online post-dilution HDF procedure, with the same dialyser and nadroparin as the anticoagulant. Using PFA-100 closure time (collagen/epinephrine – CEPI and collagen/adenosine diphosphate – CADP) was measured before and after the procedure, as well as the number of platelets and haematocrit level (Ht).

**Results:** Prolonged CEPI was found in 60.7% and prolonged CADP in 96.4% of patients before the procedure. Mean CEPI after vs. before HD was not statistically significant prolonged ( $196.2 \pm 61.6$  vs.  $175.1 \pm 60.7$ s;  $p=0.244$ ); mean CEPI after vs. before post-dilution HDF was statistically significant prolonged ( $264.5 \pm 39.4$  vs.  $184.9 \pm 63.0$ s;  $p<0.001$ ). Mean CADP after vs. before HD was not statistically significant lower ( $142.6 \pm 44.8$  vs.  $143.0 \pm 41.6$ s;  $p=0.965$ ); mean CADP after vs before post-dilution HDF was statistically significant prolonged ( $226.4 \pm 52.1$  vs  $134.6 \pm 34.0$ s;  $p<0.001$ ). Mean platelet count after vs. before HD was not statistically significant higher ( $210.4 \pm 42.7$  vs.  $207.2 \pm 39.8$ ;  $p=0.381$ ); mean platelet count after vs. before post-dilution HDF was statistically significant lower ( $193.3 \pm 29.4$  vs.  $217.4 \pm 38.1$ ;  $p<0.001$ ). Mean Ht after vs before HD was statistically significant higher ( $0.379 \pm 0.024$  vs.  $0.369 \pm 0.015$ ;  $p=0.037$ ); mean Ht after vs. before post-dilution HDF did not change statistically significant ( $0.384 \pm 0.025$  vs.  $0.376 \pm 0.021$ ;  $p=0.119$ ).

**Conclusions:** Only after post-dilution HDF, we found prolonged platelet closure time (CEPI and CADP) and also lower platelet count.

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