

TISSUE ADVANCED GLYCATION END PRODUCTS (AGE) ACCUMULATION IN END STAGE RENAL DISEASE: PERITONEAL PATIENTS VERSUS HEMODIALYSIS PATIENTS

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Tissue advanced glycation end products (AGE) accumulation is a measure of cumulative metabolic stress that can be assessed by skin autofluorescence (SAF) and may be a useful marker of CV risk. AGEs are normally cleared by the kidney therefore they accumulate in CKD and dialysis.

We performed a monocentric observational study that evaluated the ages skin content in Peritoneal dialysis patients (pts) as compared to that in haemodialysis patients. Exclusion criteria were: dialytic age < 2 months and > 60 months, state of acute illness, neoplasia, active infections.

The aim of the study was that to evaluate if there is an association between ages and dialytic technique. We then evaluated factors that can influence the risk of ages accumulation as: diabetes mellitus (DM), cardiovascular disease (CV), dialytic efficiency (Kt/V).

We analyzed 25 PD patients and 25 HD pts matched for age (63.5 ± 18.5 vs 63 ± 18.2), dialytic age (20.5 ± 18.6 vs 21.8 ± 16.8) and sex (17 M; 8 F vs 19 M; 6 F). We observed significant higher AGEs level in HD patient (3.84 ± 0.97) than in PD patients (2 ± 0.4) ($p=0.01$). In DM patients (PD 4 Vs HD 10 pts), any statistically significant association for AGEs production have been established with the involvement of DM, nor within each group of dialytic technique, neither comparing the DM and the NonDM subgroups of HD and PD pts. We had the same results for CV pts (PD 4 vs HD 12). Higher values (3.7 vs 3) in patients with a worse dialytic efficiency were only measured in PD and not in HD, also if without statistical significance.

In conclusion, were other studies have demonstrated higher SAF in PD patients than in HD, we observed an opposite trend. Also if DM is known to raise AGE levels and that higher AGEs increases CV risk, none of these comorbidities influence significantly AGEs values in our population. Finally, the importance of the dialytic efficiency in the lowering of AGEs through their removal from blood seems not to be relevant for their deposition in tissues.