

Study on Changes in the Microcirculation Highlighted with Capillaroscopy in Patients with Diabetic Nephropathy: Preliminary Data

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Background and Aims

Nailfold-Videocapillaroscopy (NCV) is a non-invasive diagnostic tool of now proven efficacy in the evaluation of the microcirculation alterations characterizing various connective tissue diseases and also other several systemic diseases, such as diabetes mellitus. Diabetic nephropathy (DN) is a microvascular complication of diabetes. To our knowledge, a few researches have been conducted to investigate the relationship between DN and NVC. We evaluated nailfold capillaries (NC) in type 2 diabetes mellitus (T2DM) patients (pts) to determine any correlation between the development of nephropathy and changes in NC.

Materials and Methods

We underwent NCV 30 pts (18M and 12F) affected by T2DM and a control group of 28 healthy individuals (16M and 12F). T2DM pts were separated into groups of normoalbuminuric, microalbuminuric and macroalbuminuric DN stages according to the albumin/creatinine ratio. GFR was evaluated using the CKD-EPI formula. We used Videocap 3.0, 200x magnification

and software (DS Medica, Italy).

Results

Pts with albuminuria had more microhemorrhages (12.6%), capillary aneurysms (18.3%), bizarre capillaries (42.8%), bushy capillaries (29.8%) and greater tortuosity (68.8%) than the control group. Only tortuosity was significantly correlated with albuminuria ($p < 0.05$).

Conclusions

Our preliminary data confirmed NCV as a useful diagnostic tool for alterations of the microcirculation also in patients with DN, although further feedback is needed.

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