

Neo-Angiogenic Manifestations of the Peripheral Capillary Circulation in Hypothyroid Patients: Evaluation by Periungual Video Capillaroscopy

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Background and Aims: Angiogenesis is regulated by several factors, including VEGF, that increases significantly in untreated hypothyroid patients (pts) and correlate with those of TSH in with goiter pts, decreasing significantly after replacement treatment. Endostatin, a natural inhibitor of angiogenesis, is reduced in hypothyroidism. Changes in TSH and VEGF are observed both in the thyrocytes and in the endothelial cells of the microcirculation. In our study we evaluated the neo-angiogenic manifestations of the peripheral capillary circulation in hypothyroid pts using periungual video capillaroscopy (NVC).

Materials and Methods: We subjected 30 pts with thyroid struma (26F and 4M) age 46y (range 16-66) and 26 controls (22F and 4M) age 44y (range 19-64) to NVC, using a VideoCap 3.0 with optics 200X (DS Medica). The presence of tortuosity of the capillary loops (ratio between the number of tortuous loops and normal loops) was considered as an expression of neo angiogenesis.

Results: We found a significantly higher number of tortuous capillary loops, expression of neo angiogenesis, in pts with hypothyroidism vs. controls ($p < 0.001$).

Conclusions: Our data suggest that neo-angiogenic phenomena affect the peripheral microcirculation of pts with hypothyroid struma and confirm the important role of NVC in the study of microcirculatory alterations even in extra-rheumatic diseases.

References

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