



Università degli Studi di Brescia
Presentazione *Progetti bando di Ateneo Health & Wealth*
Area tematica “Tecnologie per la Salute”
9 luglio 2021

**Sviluppo di nuovi metodi di valutazione della struttura del
microcircolo MICROOFT**

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Il progetto prevedeva i seguenti obiettivi:

- 1) Di validare l'apparecchiatura RTX-1 (Imagine Eyes) vs. il gold standard (biopsie tessutali + micromiografia).
- 2) Di valutare la riproducibilità e il valore clinico della misurazione del rapporto parete/lume delle arteriole retiniche (W/L).
- 3) Di valutare il possibile effetto di farmaci anti-angiogenetici, ampiamente utilizzati in oncologia, quali i modulatori del VEGF e gli inibitori di tirosina kinasi su indici di struttura del microcircolo valutati non invasivamente (W/L. densità capillare misurata mediante videomicroscopia) e su indici di distensibilità arteriosa.

Results and conclusion: Our data suggest that adaptive optics has a substantial advantage over SLDF in terms of evaluation of microvascular morphology, as WLR measured with adaptive optics is more closely correlated with the M/L of subcutaneous small arteries ($r^2=0.84$, $P<0.001$ vs. $r^2=0.52$, $P<0.05$, slopes of the relations: $P<0.01$ adaptive optics vs. SLDF). In addition, the reproducibility of the evaluation of the WLR with adaptive optics is far better, as compared with SLDF, as intraobserver and interobserver variation coefficients are clearly smaller. This may be important in terms of clinical evaluation of microvascular morphology in a clinical setting, as micromyography has substantial limitations in its clinical application due to the local invasiveness of the procedure.

De Ciuceis C et al, J Hypertens 2018; 36:1154-1163.

Conclusions: Our data suggest that an increase of antihypertensive treatment is necessary in patients treated with a TKI or a direct VEGF inhibitor, confirming pro-hypertensive effects of these drugs. However, under adequate blood pressure control, microvascular structure seem to be partially preserved, since a worsening of basal capillary density but no changes in retinal arteriole morphology were observed.

Coschignano ME et al, Front Cardiovasc Med. 2021 Mar 10;8:651594. doi: 10.3389/fcvm.2021.651594. eCollection 2021.