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Microcirculation Changes After Graft Harvesting by a Novel TechniqueA. Dobos^{1,2}, D. Palombo¹, M. L. Duran¹, M. S. Alonso¹¹Complutense University, M, Spain, ²Semmelweis University, Budapest, Hungary

Objectives To analyze the post surgical blood flow changes of palatal donor sites during early healing (up to 30 days) after graft harvesting by Laser Speckle Contrast Imaging (LSCI)

Methods Data were obtained from clinical studies including the harvestment of palatal connective tissue grafts. An analysis of palatal blood perfusion from 25 mucogingival surgeries utilizing two different graft harvesting techniques (Free gingival graft and Modified double blade harvesting technique) is presented. Blood supply changes of 5 regions of interest (ROI) were measured at baseline, 7, 14, and 30 days in the donor site, and then compared between the two techniques. Changes in heart rate and body temperature were also considered. The means and standard deviation of the Perfusion Units in each ROIs were registered and compared at different timepoints.

Results Differences in perfusion changes between the two techniques were found, although there was no statistically significant difference. In both techniques, the donor site showed an increase in superficial blood supply from the 7-day follow-up. In the FGG harvesting, the perfusion was higher than in the MDBHT in almost all ROIs at different timepoints except for the endpoint (30 days), when the FGG group's values reach the baseline, while the other group's values stay elevated. The most representative changes are in the graft area, which is presented in the Table.

Conclusions The results suggest that healing after the MDBHT is more traumatic and requires more time for complete revascularization according to the evaluation of perfusion changes with the LSCI, a reliable method for early healing assessment. One month seems insufficient for the complete revascularization process within this time frame in the MDBHT group.