**Title:***No more than 30 words*

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| **A Double-blind Placebo-controlled Randomised Study of the Effects of Candesartan Versus Amlodipine On Capillary Rarefaction, Pulse wave velocity, and Central Blood Pressure In Essential Hypertension.** |

**Abstract:***No more than 250 words. Your abstract must fit into the box.*

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| Background: Capillary rarefaction (CR) occurs in many tissues in patients with essential hypertension (HTN) and plays a crucial role in increasing blood pressure (BP). The aim of this clinical trial was to assess in a double blind, randomised, placebo-controlled design the effects of treatment with candesartan or amlodipine on CR and vascular function in individuals with mild-to-moderate essential HTN. Methods: Skin capillary microcirculation was studied using intravital video-microscopy. After a 2-week single-blind placebo run-in period, patients who remained hypertensive (systolic BP 140–180 mmHg and/or diastolic BP 90 -110 mmHg) were randomised to 8-weeks treatment with either candesartan 8mg daily (with forced titration to 16mg after 2 weeks) or amlodipine 5mg daily (with forced titration to 10mg after 2 weeks). Other measurements included pulse wave velocity, central BP and Aortic Augmentation Index. Results: Treatment with candesartan and amlodipine significantly reduced both brachial and central BP at 4 weeks (mean change -19.0 mmHg; 95% CI -11.1 to -26.9, p<0.0001), and at 8 weeks (mean change -26.3 mmHg; 95% CI -17.5 to -35.0, p<0.0001) but had no significant effect on basal (functional) or maximal (structural) CR. Both drugs reduced central BP and Aortic augmentation index significantly after 4 and 8 weeks but there was no significant changes in PWV.Conclusions: The study confirms that 8 weeks treatment with either candesartan or amlodipine significantly reduces radial and central BP in essential HTN but may not be a sufficient circumstance for inducing a regression in microvascular abnormalities.Disclosure: Study was funded by Takeda, UK |