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# EFFECTS OF A COMBINED GLUCOSE AND FAT LOAD ON ENDOTHELIUM-DEPENDENT BRACHIAL ARTERY VASODILATATION IN HYPERTENSIVE PATIENTS

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**Background and aims** The aim of this study was to investigate the effects of a combined glucose and fat load on glucose and lipid metabolism and vascular endothelial function in hypertensive patients.

**Methods** 98 hypertensive patients were randomly divided into three groups that received either an oral fat tolerance test (OFTT), an oral glucose tolerance test (OGTT) or a combined oral glucose and fat tolerance test (OGFTT). Endothelium-dependent flow-mediated brachial artery dilation (FMD) was measured by vascular ultrasound and was used as an indicator of vascular endothelial function.

**Results** There were no significant differences in demographics or clinical characteristics among the three groups prior to the study. Immediately after the OGFTT, the serum triglyceride (TG) levels and area under the curve for blood glucose (GS-AUC) in the OGFTT group were not significantly different from those in the OGTT and OFTT groups. However, the 1 h-FMD in the OGFTT group was significantly reduced compared with the OGTT group ( $5.45 \pm 0.75$  vs  $9.46 \pm 1.32$ ,  $p < 0.05$ ), and the 4 h-FMD in the OGFTT group was also significantly reduced compared with the OFTT group ( $8.56 \pm 1.09$  vs  $9.76 \pm 2.00$ ,  $p < 0.05$ ).

**Conclusion** A combined glucose and fat load has a synergistic effect on vascular endothelial dysfunction in hypertensive patients.