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ABSTRACT OF ARTERY

PERINDOPRIL/INDAPAMIDE FIXED COMBINATION AND REGRESSION OF TARGET ORGAN DAMAGE: ACTING THROUGH MACRO AND MICROCIRCULATION

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Maintaining vascular health and adequate tissue perfusion has become an important target in the management of cardiovascular disease and hypertension-related organ damage. The mechanical properties of the large arterial wall are a key factor responsible for the arterial systolic and pulse pressure values, both significant markers of the cardiovascular risk in hypertensives. The microvasculature, which is both a target and a determinant of peripheral resistance and thus of arterial blood pressure, contributes to the pathological changes in the macrocirculation and subsequently to end-organ damage. The major changes in the microcirculation of hypertensive individuals include: (1) remodeling of small arteries associated with altered myogenic tone; (2) a rarefaction of arterioles and capillaries, and (3) an enhanced microvascular permeability.

The prevention or regression of hypertension dependent vascular alterations represents a desirable goal for pharmacologic treatments. Combination treatment ACE inhibitor/diuretic, perindopril/indapamide, has been shown to have positive effects on the micro- and macrocirculation and on subsequent cardiovascular disease. In the one-year REASON study, perindopril/indapamide treatment decreased pulse wave velocity and aortic augmentation index, both measures of arterial stiffness and macrovascular health. In addition, data gathered from animal studies show that perindopril/indapamide has a beneficial impact on 1- capillary density both in the myocardium and in skeletal muscles, 2- the endothelium function, and 3- ischemia-induced angiogenesis. In rat models of renal failure, treatment with perindopril/indapamide prevented glomerular hyalinosis and tubulointerstitial damage, reduced the hypertrophy of superficial glomeruli and the mesangial expansion of deep glomeruli, and positively affected proteinuria and glomerular injury.

Together, these data suggest that hypertension related damage to the micro- and macrovascular system may be manageable through pharmacologic interventions such as combination treatment perindopril/indapamide.