Hypertension and depressed symptomatology: a cluster related to the activation of the renin-angiotensin-aldosterone system (RAAS). Findings from population based KORA F4 study.

Abstract:

Preliminary evidence points to aldosterone being not only prominently involved in the systemic regulation of the blood pressure but also to play a role in the pathophysiology of depression. We evaluated whether the combination of hypertension and depressed symptomatology is useful to screen for individuals suffering an activation of the renin-angiotensin-aldosterone system (RAAS). We conducted a cross-sectional analysis in participants from the Cooperative Health Research in the Region of Augsburg (KORA) F4 Study conducted between 2006 and 2008 in Southern Germany. A total of 1805 participants of the F4 study were included in the study. The association between aldosterone and renin levels and the different combinations of hypertension and depressed symptomatology was examined in four different models of multiple linear regression adjusted for age, sex, creatinine levels, potassium levels, body mass index (BMI) and behavioural risk factors. Individuals suffering both, depressed symptomatology and hypertension exhibited highly significantly increased aldosterone levels (p<0.001) and slightly, not significantly increased renin levels (p=0.08) compared to individuals with no depressed symptomatology and no hypertension. No significant activation of the RAAS.
was seen in only depressed or only hypertensive individuals. The finding of highly significantly increased aldosterone levels and increased renin levels in individuals suffering both, depressed symptomatology and hypertension provides further evidence for the involvement of the RAAS in the pathogenesis of depressed symptomatology. These findings have important implications for future research concerning the pathophysiological pathways that link depression and cardiovascular disease.

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