ALDOSTERONE RECEPTOR BLOCKADE IN CARDIOVASCULAR THERAPY - HISTORICAL PERSPECTIVES

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Since discovery of aldosterone in 1953 its possible role in regulation of body fluid volume and blood pressure has been intensively studied in physiological as well as pathological situations (arterial hypertension, edema etc.). Recently also growth stimulatory and proliferative effects of aldosterone on myocardial and interstitial tissue of the heart has been proved. Under pathological situations aldosterone can be effective as a primary etiopathogenic factor like in primary aldosteronism and/or as a secondary pathogenic aggravating mechanism in essential hypertension, congestive heart failure and edematous states. The first effort to block excessive aldosterone biosynthesis by the drugs as amphenone, o,p-DDD and aminoglutethimide did not reach wide usage due to their relative toxicity and frequent side effects. Synthesis of peripheral aldosterone receptor blockers - spironolactone and later on eplerenone - extended markedly their indication criteria for therapy not only of primary aldosteronism but also of essential hypertension (4E Study), congestive heart failure (RALES Study) often in combination with other inhibitors of the renin-angiotensin system (EPHESUS Study). Therapy with spironolactone and/or by eplerenone influenced favorably not only blood pressure but also function and morphology of left ventricle. These drugs support regression of left ventricle hypertrophy, prevent its remodeling and block development of interstitial fibrosis. By this multiple effects they restrain progression of left ventricle failure and so lower the morbidity and mortality of patients. The spironolactone in a dosage of 25 mg/day or eplerenone 25-50 mg/day are well tolerated, however, serum potassium and creatinine concentrations should be regularly controlled. In the future the extension of contemporary indications as well as synthesis of new aldosterone receptor blockers can be anticipated with expansion of their use in human pathology.

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