Angiotensin II causes a dual effect on potassium permeability in adrenal glomerulosa cells

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In previous studies it was shown that angiotensin II causes a Ca-dependent increase in the K permeability of bovine adrenal glomerulosa cells [Am. J. Physiol. 250 (Endocrinol. Metab. 13): E125-E130, 1986]. Here we show that angiotensin II causes a significant and prolonged reduction in the 86Rb release immediately after the transient rise in 86Rb efflux. This inhibition was dose related. Apamin (100 nM) and tetraethylammonium (10 mM) completely abolished the initial transient rise in 86Rb efflux without affecting the latter sustained phase of reduced radioisotope release. On the contrary, the effect of angiotensin II on the second phase was absent when Ca was removed from the perifusion medium or replaced with Sr, but the effect on the early transient phase of 86Rb efflux was maintained in the absence of external Ca. An additional finding was the increased coefficient rate of 86Rb efflux that occurred when the cells were depolarized with 12 mM K. However, this effect was not observed w