

Angiotensin-mediated calcium efflux from adrenal glomerulosa cells

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The effects of angiotensin II on efflux of radiocalcium and production of aldosterone from dispersed bovine adrenal glomerulosa cells were studied using a flow-through system. Concentrations of angiotensin II between 1.25×10^{-10} and 1.25×10^{-8} M were found to stimulate both radiocalcium efflux and the rate of aldosterone production. The increase in radiocalcium efflux occurred within 1.5-2.5 min after angiotensin addition, reached a peak in 3.0-4.5 min, and then declined to a value slightly greater than control. The initial increase in aldosterone production occurred 3-5 min after the peak of calcium efflux. In cells preloaded with $[^{45}\text{Ca}]$ and then perfused for 1 h with a medium containing no calcium, the basal rate of aldosterone production fell to zero. Angiotensin II (1.25×10^{-8} M) caused no increase in aldosterone secretion rate but still caused an efflux of radiocalcium. Exposure of cells to 5×10^{-5} M verapamil blocked the effect of 1.25×10^{-10} M angiotensin on both radiocalci