

INTRODUCTION

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Role of Natriuretic Peptides in Body Fluid Homeostasis**

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The following papers review all aspects of the genetics, biochemistry, secretion, receptors, and biological actions of atrial natriuretic peptide (ANP) with particular emphasis on the recent studies on the regulation of the principal ANP receptor, which is a particulate guanylyl cyclase. The functional significance of the clearance receptors is also examined critically. The neural actions of ANP are emphasized and the fact that even the ANP release from blood volume expansion is at least partially under neural control. Finally, the complex interactions between angiotensin II (AII) and ANP are reviewed from fish to mammals. In essence, the actions of ANP and AII are almost always opposite in sign, whether in the brain or in the periphery. Lastly, the clinical significance of ANP which was originally thought to be a potential treatment for essential hypertension and congestive heart failure was reviewed by Dr. John Barnett of the Mayo Clinic. Even though his lecture is not part of this series of papers, it made it clear that there may be important clinical applications of ANP since it is now possible to block the antagonistic action of AII with converting enzyme inhibitors that block formation of AII. When coupled with ANP treatment, this could provide a powerful combination of drugs for the treatment of hypertension and congestive heart failure.