

Journal of Andrology, Vol 18, Issue 5 513-521, Copyright © 1997 by The American Society of Andrology

## JOURNAL ARTICLE

# Comparison of responses to adrenomedullin and calcitonin gene-related peptide in the feline erection model

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The purpose of the present study was to investigate the effects of intracavernosal injections of adrenomedullin (ADM) and calcitonin gene-related peptide (CGRP), two structurally similar peptides, on penile erection in the anesthetized cat. Erectile responses to ADM and CGRP were compared with responses to a standard drug combination (1.65 mg papaverine, 25 microg phentolamine, and 0.5 microg prostaglandin E1 [PGE1]). Intracavernosal injections of ADM (0.1-3 nmol) and CGRP (0.01-0.3 nmol) induced erection in a dose-dependent manner. The maximal increase in intracavernosal pressure in response to ADM was a 75% increase, while the maximal response to CGRP was comparable to that induced by the reference combination, and the maximal increase in penile length was comparable with ADM, CGRP, and the standard drug combination. The duration of the maximal pressure increase and the total duration of the response to ADM and CGRP were more abbreviated than with the control combination, and systemic blood pressure was reduced significantly after administration of CGRP, the control combination, and the higher doses of ADM. The nitric oxide synthase inhibitor, L-NAME, and the K<sup>+</sup>(ATP)-channel antagonist, glybenclamide, had no effect on the erectile response to CGRP or ADM. The CGRP receptor antagonist CGRP(8-37) attenuated the erectile response to CGRP but not to ADM. These data suggest that the erectile responses to ADM and CGRP are not mediated by nitric oxide release or the opening of K<sup>+</sup>(ATP) channels, two mechanisms reported to be involved in penile erection, and that CGRP and ADM induce penile erection by activating different receptors.

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