

## Angiotensin-(1-7) corrects diabetes-induced activation of phosphodiesterase in rat corpus cavernosum

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Angiotensin-(1-7) may have beneficial effects in erectile dysfunction (ED) associated with diabetes mellitus. The objective of this study was to investigate the effects of chronic administration of Ang-(1-7) on phosphodiesterase (PDE) levels in the rat CC. Male Wister rats weighing 300 g were used according to the National Institutes of Health Guide for the Care and Use of Laboratory Animals. Diabetes was induced by IP injection (55 mg/kg) of streptozotocin (STZ). After three weeks of diabetes induction, Ang-(1-7) was administered IP (576 µg/kg/day) for another three weeks and animals were sacrificed at the end of six weeks. Animal groups were: Group 1: Control, Group 2: Control+Ang-(1-7), Group 3: STZ and Group 4: STZ+Ang-(1-7). Rats were sacrificed at the end of the study. Longitudinal strips of CC from control and diabetic rats were suspended in organ-baths. The reactivity of the tissues to the vasodilator agonists Ang-(1-7) and carbachol was determined by measurement of changes in isometric tension. The isolated penile tissues from different animal groups were homogenized and PDE activity was measured using a luminescence-based kit. The relaxant responses to Ang-(1-7) and carbachol were significantly impaired in diabetic CC. Pre-incubation of the CC from diabetic animals with Ang-(1-7) resulted in significant enhancement in carbachol-induced relaxation. Diabetes caused a significant increase in the activity of PDE in penile tissue. Chronic treatment with Ang-(1-7) significantly reduced STZ-induced activation of PDE activity. Ang-(1-7) induced an attenuation in the increased penile PDE activity of diabetic rats which may provide a new therapeutic tool to correct ED.

### Biography

Yousif M H M has completed her PhD at School of Pharmacy and Pharmacology in University of Bath, UK in 1996. She works as a Professor of Pharmacology in Faculty of Medicine at Kuwait University. She published more than 50 papers in peer reviewed journals and served as a reviewer for different journals in the field of Pharmacology. Her research interest is in studying signal transduction pathways involved in mediating cardiovascular dysfunction in type 1 diabetes.

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