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SARAWAN MAYTHAARTTAPHONG : ROLE OF ALPHA ADRENOCEPTOR MEDIATING CONTRACTION IN RAT EPIDIDYMIS. THESIS ADVISORS : GANYAPONG CHATURAPANICH, Ph.D., CHUMPOL PHOLPRAMOOL, Ph.D., CHAIVAT TOSKULKAO, D.V.M., Ph.D. 104 p. ISBN 974-662-375-3

Intraluminal pressure in different regions (caput, corpus and cauda) of the wistra rat epididymis were measured by micropuncture technique and a servo-nulling pressure transducer system. The purposes of this research are to study the effect of alpha adrenoceptor agonists and antagonists on the contraction of the epididymis, and to study the effect of alpha adrenoceptor antagonists on the contraction of the epididymis in response to adrenergic agonists *in vivo*. The intraluminal pressures were progressively increased from the caput towards the cauda region. In contrast, the frequency of contraction was progressively decreased from the caput towards the cauda region. Intravenous administration of norepinephrine (non-selective adrenoceptor agonist) increased the intraluminal pressure and frequency of contraction in all segments of the epididymis. Methoxamine (α_1-adrenoceptor agonist) and clonidine (α_2-adrenoceptor agonist) increased the intraluminal pressure and frequency of contraction in only the cauda epididymidis. Prazosin (α_1-adrenoceptor antagonist) and yohimbine (α_2-adrenoceptor antagonist) did not change the spontaneous contraction of the epididymal tubule. Both prazosin and yohimbine inhibited the stimulating effect of norepinephrine on contraction in the various regions of the epididymis except for in the corpus region where only frequency of contraction was reduced by prazosin. In the cauda epididymidis, the effects of methoxamine and clonidine on contraction were completely inhibited by prazosin and yohimbine, respectively. According to the effect of adrenoceptor antagonists on the responsiveness of epididymis to norepinephrine, it was suggested that α_1 and α_2 adrenergic receptors are present in the caput, corpus and cauda epididymidis.