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JOURNAL ARTICLE

Regulation of rat caput epididymidis contractility by prostaglandins

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Mechanical activity of the rat caput epididymidis in vitro was recorded using a videomicrography system. The effects of prostaglandin (PG)F2 alpha, PGE2, and aspirin on caput epididymidis contractility were determined by measuring the frequency of contraction, luminal diameter, and amplitude of contraction at various concentrations of each test compound in vitro. PGF2 alpha stimulated contractility of the tubules at physiological concentrations, while PGE2 reduced contractility. Aspirin strongly inhibited contractility at concentrations of 10(-3) and 10(-2)M. Endogenous levels of PGF2 alpha and PGE were determined for rat testes, caput, corpus, and cauda epididymidis and vas deferens. While the concentrations of PGE were consistently higher than those of PGF2 alpha, both compounds were relatively low in the testes, high in the vas deferens, and intermediate throughout the epididymis. Results from these experiments strongly suggest that PGs are important regulators of proximal epididymidis contractions and thus may regulate sperm transport through that organ.