The effects of pramanicin on the porcine coronary artery

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1. The effects of the antifungal agent pramanicin (PMC) and two of its analogues (PMC-A, PMC-B), on contractility and resting tone of porcine coronary arterial rings were investigated by isometric recording of smooth muscle contractions.
2. Pre-incubation with PMC or PMC-A (100 µM, 30 min) significantly reduced the amplitude of subsequent KCl-induced contractions.
3. Long-term incubation with PMC (100 µM, ca 3 h) appears to damage the smooth muscle tissue, effectively attenuating the smooth muscle response to KCl treatment.
4. Pre-incubation with PMC (100 µM, 30 min) also reduced the amplitude of carbachol-induced contractions.
5. We conclude that PMC and PMC-A, either directly or indirectly, injure the contractile mechanism involved in KCl- and carbachol-induced contraction of porcine coronary arterial smooth muscle. The bioactivity differences between PMC-B and the other two PMC analogues may establish a rudimentary structure-function relationship for this series of compounds.