CVS-05 Effects of 293B, a selective I_{Ks} blocker, on transient outward and ultra-rapid delayed rectifier K^+ currents in human atrial myocytes

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Introduction: Previous reports demonstrated that chromanol 293B, a so-called selective blocker of slow component of delayed rectifier K^+ current (I_{Ks}), inhibited other channel currents. It is unclear whether 293B may affect other K^+ currents in human atrium.
Methods: With whole-cell patch clamp technique, we studied effects of 293B on transient outward K^+ current (I_{to1}) and ultra-rapid delayed rectifier K^+ current (I_{Kur}) in isolated human atrial myocytes. Experiments were conducted at room temperature.
Results: It was found that 293B reversibly inhibited I_{to1} and I_{Kur} in a concentration-dependent manner, and the effect was not dependent on depolarizing voltage. Concentration for 50% inhibition (IC_{50}) was 31.2 μM for I_{to1}, and 30.9 μM for I_{Kur}. 293B blocked I_{to1} and I_{Kur} with same concentration range, and significant effect was observed from a concentration of 1 μM, and reached maximum effect at 250 μM. Voltage-dependent kinetics of activation and inactivation, and time-dependent recovery from inactivation of I_{to1} were not altered by 293B; however, time to peak and time-dependent inactivation of I_{to1} was significantly accelerated.
Conclusion: The results indicate that the so-called I_{Ks} blocker 293B significantly inhibits major repolarization K^+ currents, I_{to1} and I_{Kur}, in human atrial myocytes.

CVS-06 Effect of Qigong on hypertension: a randomised controlled study

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Introduction: The cause of essential hypertension remains unknown in most patients. Exercise and relaxation therapy are useful in decreasing blood pressure. We conducted a randomised controlled trial to examine the effects of Guolin qigong on blood pressure, other cardiovascular risk factors and psychosocial well-being in patients with mild essential hypertension.
Method: After informed consent, each patient was randomised to practice either qigong or conventional exercise daily for 16 weeks. In addition to clinical and laboratory assessments, SF-36, Beck Anxiety Inventory and Beck Depression Inventory version II questionnaires were also completed by the patients.
Results: Ninety-one patients were recruited but 3 patients withdrew before the intervention period. Qigong skills were harder to master than conventional exercise. Sodium level increased by 1.18±0.46 mmol/l more in the qigong group at week 16 (p=0.012). Heart rate was higher by 3.2±1.3 bpm in the qigong group at week 4 (p=0.016) but not subsequently. Ambulatory daytime systolic BP as well as night-time systolic and diastolic BP were higher by 4.89±2.11 mmHg (p=0.024), 6.19±2.45 mmHg (p=0.014) and 5.54±1.53 mmHg (p=0.001) respectively in the qigong group at week 16. Systolic and diastolic blood pressure, calcium, cholesterol, renin, weight, BMI, waist, hip, and urine protein significantly decreased in both groups at week 16. General health, mental health, social functioning, anxiety, and depression also improved in both groups. One female in the qigong group developed vestibular neuronitis.
Conclusions: Both Guolin qigong and conventional exercise lower blood pressure in patients with mild essential hypertension. It may therefore be an alternative to conventional exercise as part of the non-pharmacological management of hypertension.

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