

The mechanisms of DCXF on Migraine: a block effect on Ca²⁺-channel

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Objective: To screen out the active components which act on calcium channels of vascular endothelial cell from a traditional Chinese herb compound on migraine named DCXF.

Materials and Methods: 15 components of DCXF were prepared as testing samples and Nimodipine preparation (Nimotop®, 41.21*10⁻³mm/ml, Bayer, Germany) was used as positive control. Negative control and blank control were used. The test was carried out on fetal endothelial cells of umbilical vein with ⁴⁵Ca²⁺ incorporation method. The observing parameter was the inhibition rate of Ca²⁺ uptake.

Results: 4 out of the 15 components of DCXF showed that, the inhibition rates of Ca²⁺ uptake at concentration 28.57mg/ml were 99.29%, 99.08%, 98.66% and 100.97% respectively. The inhibition rate of Nimodipine was 84.26%. Compared to the negative controlled sample, the inhibition rate of Ca²⁺ uptake of the these 4 components and Nimodipine were all of statistical significance (P<0.001).

Conclusions: DCXF has been used in traditional Chinese medicine for more than 600 years with the indication on migraine and other types of headache. Its effects on blocking Ca²⁺ channels of vascular endothelial cell might be one potential pharmacological mechanism.