

Effect of "Dang-Qui-Shao-Yao-San" a Chinese medicinal prescription for dysmenorrhea on uterus contractility in vitro

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Abstract

Dysmenorrhea is directly related to elevated level of prostaglandin F(2)alpha (PGF(2)alpha), and is treated with nonsteroid anti-inflammatory drugs. Though efficacy of the latter is rapid, the effect is temporary, and they cause many side effects to the liver, kidney and digestive system. Because of this, Chinese medicinal therapy is being considered as a feasible alternative medicine. In this study, Dang-Qui-Shao-Yao-San (DQSYS), one of Chinese medicinal prescriptions was selected. A 50% alcohol solution was used to extract the active ingredients and create a freeze-dried product. Using rat uterine smooth muscle in vitro, DQSYS was used to suppress spontaneous contractions and PGF(2)alpha induced contractions. Then acetylcholine, ergonovine, propranolol, oxytocin and KCl were used to analyze the physiological mechanisms. The results show that DQSYS has the antagonistic action on both PGF(2)alpha and Ach induced uterine contraction. Furthermore, it has the antagonistic effect on contraction caused by KCl-depolarization. These actions may be the major mechanism of the beneficial effect of Chinese prescription in treating dysmenorrhea.