Effect of dysmenorrhea Chinese medicinal prescription on uterus contractility in vitro

許淳森

Hsu CS;Yang JK;Yang LL

摘要

Abstract

Dysmenorrhea is a common gynecologic complaint. After their first menstrual period, 30%-60% of American women suffer from some level of discomfort. It is estimated that 6 billion work hours are lost in this manner every year in the United States which equals an economic loss of nearly US$200 million. Dysmenorrhea is not only a problem for women but also one which affects quality of life and even reduces productivity in general. Dysmenorrhea is directly related to elevated levels of PGF2a (prostaglandins F2a) and is treated using nonsteroid anti-inflammatory drugs in Western medicine. Though efficacy of the latter is rapid, there are many side effects to the liver, kidney, and digestive system. The anti-inflammatory effect is temporary, and such drugs are unable to provide a long-term cure. Because of this, Chinese medicinal therapy is being considered as a feasible alternative medicine. In this study, Wen-Jing Tang (one of the dysmenorrhea Chinese medicinal prescriptions) was selected. A 50% alcoholic solution was used to extract active ingredients and create a freeze-dried product. At first, Wen-Jing Tang was used to suppress spontaneous contractions and prostaglandins F2a-induced contractions of rat uterine smooth muscle in vitro. Then, an assessment was performed to determine the mechanism of the prescription. Acetylcholine, ergonovine, propranolol, oxytocin, and KCl were used to analyze the physiological mechanisms of WJT. The results show that antagonism of both PGF2a and ACh are the major mechanisms for treating dysmenorrhea by Wen-Jing Tang. Furthermore, the antagonistic effect of KCl-depolarization contractions may be an auxiliary mechanism of the curative effect.

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