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Effects of wutou (*Aconitum carmichaeli*) and banxia (*Pinellia ternat*) aqueous extract on wound healing in rats

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Wutou, a traditional Chinese medicine (TCM) from the axial root of *Aconitum carmichaeli*, is traditionally used to treat colds, polyarthralgia, diarrhea, heart failure, beriberi, and edema. Banxia, the rootstock of Pinellia ternate, has a therapeutic effect on treatment of cough, infection and inflammation. Application of wutou and banxia together *in vivo* is consider as a taboo in a classical TCM book, but the potential clinical utility of *in vitro* remain unknown. The purpose of current study was to investigate effects of application of wutou and banxia aqueous extract in the wound rats. Rats were fulfilled a surgical lesion with a 2.0 cm resecting tissue in the dorsal fascia. Following, animals were divided into 3 groups, including model group, control group treated with 1 mg/mL of Yunnan Baiyao, and Wutoubanxia group administrated 1 mg/mL of wutou and banxia extract. Wound contractions in day 0, 3, 7, 11 were calculated by an image analyser. The histological analysis was detected using hematoxilin and eosin. The levels of tumor necrosis factor α (TNF-α), interleukin-2 (IL-2), transforming growth factor-β1 (TGF-β1), and basic fibroblast growth factor (bFGF) transcripts in the wound tissue were determined by real-time quantitative PCR. Compared with the control group, rats in the model group showed poor re-modeling and re-epithelization characterized by a significant decrease of neovascularization, epithelialization and fibroblast. Furthermore, the expression levels of TNF-α, IL-2 were significantly increased, and TGF-β1 and bFGF significantly decreased in the model group in contrasted with that in the control group. By contrast, the treatment of Wutoubanxia extract reversed the above-mentioned conditions caused by wound. The results suggest that administration of wutou and banxia extract has a promoting role in wound healing of rats possibly through enhancing anti-inflammatory ability and inducing fibroblast formation.

Biography

Xichao Xia has completed his PhD at the age of 30 years from Henan Normal University. He has published 6 papers in SCI journals as well as 17 papers in Chinese reputed journals, appointed as a reviewer for three international journals, and performed three patents. His research interest include molecular basis of Traditional Chinese Medicine.

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