Effect of Xihuang Pill on microcirculation in DMBA combined estrogen and progesterone induced breast precancerous lesions rats

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Introduction

The incidence and mortality of breast cancer is the highest in the world's female cancer, which seriously threatens women's health and life safety. Modern research shows that the blood viscosity of patients and the detection rate of blood flow signal increases with increasing of the hyperplastic degree of mammary epithelium. The classic prescription Xihuang pill (XHP) has been used in clinical practice to treat breast precancerous lesions and breast cancer with remarkable effect. In our previous study, we found that Xihuang pill extract can inhibit the cell viability and induce the apoptosis of breast precancerous cells in vitro via inhibition of the expression of mTOR and VEGF in PI3K/Akt/mTOR signaling pathway. In this study, we observed the effect of Xihuang Pill on microcirculation in DMBA combined estrogen and progesterone induced breast precancerous lesions rats, and explored the mechanism of intervention of Xihuang Pill on precancerous lesions of breast.

Result

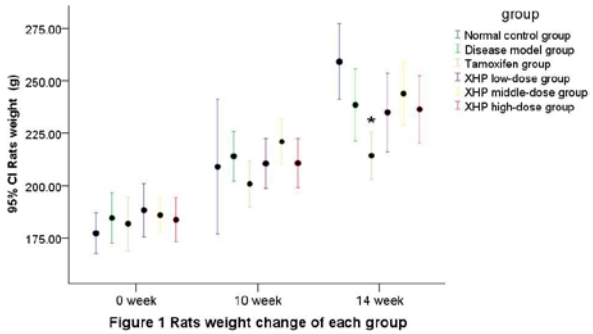

Figure 1 Rats weight change of each group

Note: comparison with normal control group,*P<0.05.

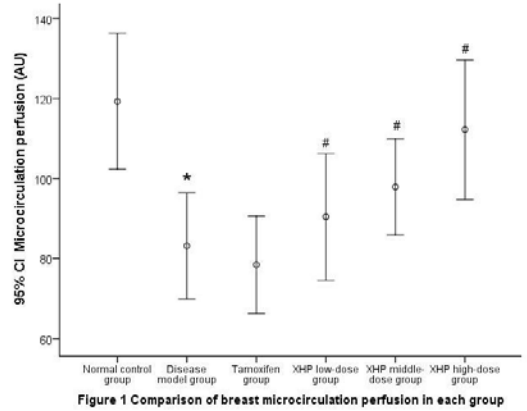

Figure 1 Comparison of breast microcirculation perfusion in each group

Note: comparison with the control group,*P<0.05;Comparison with disease model

Conclusion

In this study, Xihuang pill was used to treat the precancerous lesions of the rat, pathomorphology shows that the breast tissue in the disease model group was mainly of atypical hyperplasia grade II-III, and that in each dose group of Xihuang pill was mainly of non-atypical hyperplasia, which indicated that the therapeutic effect of Xihuang pill was very good in the stage of precancerous lesions developing to breast cancer. To a certain extent, Xihuang Pill can block and reverse histopathological changes of breast in rats with precancerous lesions induced by DMBA combined with estrogen and progestogen. This study showed that breast microcirculation perfusion in low, middle and high dose Xihuang pill group was significantly improved compared with that in disease model group, which indicated that Xihuang pill could improve the blood flow of breast in precancerous lesion model rats, promote the elimination of local metabolites, and remove blood stasis, it is vital for effective prevention and therapy of breast cancer.