The Disruption of Acupuncture towards the Therapeutic Window of Irinotecan

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SUMMARY. Acupuncture is a traditional Chinese technology involving the insertion of sterilized disposable needles into acupuncture points to achieve the purpose of releasing muscle tension and blocked Qi. The present study aims to determine the influence of acupuncture towards the metabolism of irinotecan for the first time, guiding the combined utilization of acupuncture and anti-tumor drugs in the treatment of cancers. In vitro glucuronidation metabolism of SN-38 (the active metabolite of irinotecan) was compared in the liver microsomes from control mice and acupuncture-treated mice. Quantitative polymerase chain reaction (qPCR) analysis showed that acupuncture decreased the mRNA expression, and the decreased metabolism of SN-38 was furtherly demonstrated in the liver microsomes from acupuncture-treated mice. In conclusion, the present study demonstrated the influence of acupuncture treatment towards the metabolism of anti-tumor drug irinotecan, guiding the combined utilization of acupuncture and anti-tumor drugs in the cancer therapy.

KEY WORDS: acupuncture, anti-tumor drugs, irinotecan, UGT1A1

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