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Effects of Sevoflurane on the Activities of CYP450 in Rats Using a Cocktail Approach

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***SUMMARY*. To study the effects of Sevoflurane on CYP450 activities in rats six probe drugs (phenacetin, tolbutamide, metoprolol, midazolam, omeprazole, and bupropion) were simultaneously given to rats which were randomly divided into control-group and sevoflurane-group (n = 6 each). Each rat of sevoflurane-group inhaled sevoflurane continuously during 2 weeks. Plasma concentrations of six probes were measured by LC-MS and the pharmacokinetic parameters were calculated by DAS 2.0 program. The results showed there were no statistical difference for phenacetin, metoprolol, midazolam, omeprazole, and bupropion in pharmacokinetic parameters. However, there was obvious difference in plasma concentrations and corresponding pharmacokinetic parameters of tolbutamide between two groups. The $t_{1/2}$ was shorten, $AUC_{(0-t)}$ and C_{max} was decreased in sevoflurane-group ($P < 0.05$). In conclusion, the activity of CYP2C9 can be significantly induced after inhaled sevoflurane for two weeks.**

KEY WORDS: Cocktail approach, CYP450, Rats, sevoflurane.

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