



Pharmacokinetic Comparison between Regional Arterial Infusion and Intravenous Injection with 5-Fluorouracil in Experimental Severe Acute Pancreatitis

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SUMMARY. A new determination method for 5-fluorouracil (5-FU) was established to investigate the pharmacokinetics of two different administration routes, a new model of regional arterial infusion (RAI) and a intravenous injection (IVI) in rats. Furthermore, the pharmacokinetic discrepancy between these two routes of administration was compared to confirm the potential superiority of this new model of RAI for treating experimental severe acute pancreatitis (SAP). As compared with the IVI group, 5-FU concentrations in the pancreas tissue increased to 13.53, 19.47, 2.89, and 6.87 times at each detected time points in the RAI group. Meanwhile, there were no obvious differences in the plasma or lungs between these two groups, except at 30 min. This study showed that this model of RAI could significantly increase the 5-FU concentration locally in the pancreas, simultaneously, didn't obviously increase in the blood or lungs, which could enhance the efficacy of 5-FU with less toxic side effect compared with systemic delivery.

KEY WORDS: Experimental severe acute pancreatitis, 5-Fluorouracil, High performance liquid chromatography, Intravenous injection, Pharmacokinetics, Regional arterial infusion.

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