To investigate the curative effects of various infusion volumes on liver-related metabolic mechanism in the treatment of hemorrhagic shock” Li et al (2018).

Abstract:

OBJECTIVES: To investigate the curative effects of various infusion volumes on liver-related metabolic mechanism in the treatment of hemorrhagic shock.

METHODS: A severe hemorrhagic shock rabbit model was established in 30 rabbits. The rabbits were randomly divided into three groups: non-infusion group [A], conventional infusion group [B], and excessive infusion group [C] (n=10 in each group). Taking group B as the control, groups A and C were observed for the damage of non-infusion and excessive infusion, respectively. The outcomes in the three groups and their relations with liver tissue metabolism changes were analyzed with gas chromatograph-mass spectrometer [GC-MS].

RESULTS: The mortality in groups A, B, and C group were 80%, 0%, and 70%, respectively. The liver tissue metabolic profile in group B showed statistically significant difference compared with that in groups A and B. In group C, the levels of 21 metabolites were lower than those in group B, and the levels of 8 metabolites were lower than those in group A. The relative contents of various metabolites were correlated with infusion volumes, and the succinic acid content was associated with death events [P<0.05]. CONCLUSIONS: The conventional infusion has significant curative effect on hemorrhagic shock. The metabolites
of liver tissues with excessive infusion are generally decompensated and have longer survival time than those in non-infusion group, which may caused by the excessive infusion-induced blood volume increase after hemorrhagic shock. Tissue fluid dilution is an important cause of death.

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