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## Geraniin, a possible drug to ameliorate Metabolic Syndrome

Uma M Palanisamy  
Monash University, Malaysia

**G**eraniin, a bioactive compound found in many Traditional Chinese medicine and Ayurvedic herbs. It was recently shown to be in abundance in the rind waste of the fruit *Nephelium lappaceum*. We have shown in our laboratories, using both *in vitro* and *in vivo* studies, the ability of this compound extracted from *Nephelium lappaceum* to effectively enhance glucose uptake, reduce insulin resistance, reduce obesity among other uses. Others have shown the anti-hypertensive ability of the compound.

[umadevi.palanisamy@monash.edu](mailto:umadevi.palanisamy@monash.edu)

## Etomidate increases mortality in septic rats through inhibition of NF- $\kappa$ B rather than by causing adrenal insufficiency

Jun-Yu Xiong, Yu Zhang, Ruomeng Li, Jie Zhu, Zhaohui Wang and Shen Lv  
Dalian Medical University, China

**B**oth hyperinflammation during sepsis and etomidate can suppress adrenal function. Here, we explored whether pre-treatment with etomidate can relieve adrenal suppression and its related outcomes of cecal ligation and puncture (CLP)-induced septic rats. Rats (18 rats per group) were divided in 7 groups, including 2 control groups and treated with different combinations of a small pretreatment dose (0.6 mg/kg) and a large continuous dose (2 mg/kg/hour for over 2 hours) of etomidate to evaluate the impact of the different administration combinations on the adrenal glands and outcomes in the septic rats. Animals (8 rats per group) were euthanized at 24 hours after CLP. Blood samples and adrenal glands were then collected for further measurements. The remaining rats (10 rats per group) were used to observe the 7-day survival post-CLP. The survival rate (30%) was much lower in the group pretreated with a small dose prior to CLP surgery followed by a large dose of etomidate than in the other groups. Etomidate decreased serum corticosterone, but not adrenocorticotrophic hormone levels in septic rats, and also decreased serum TNF-alpha and IL-6 levels. In rats pretreated with a small dose of etomidate, the toll-like-receptor-4 expression level in the adrenal glands was decreased and NF-kappa B translocation was inhibited. Those results suggested that the mortality of septic rats and degree of etomidate-related adrenal injury were not correlated. The etomidate-induced inhibition of inflammation and NF-kappa B translocation, which was more significant than adrenal suppression, may be responsible for the increased mortality in septic rats.

[jyxiong0639@163.com](mailto:jyxiong0639@163.com)

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