



Effects of propofol and etomidate pretreatment on glucocorticoid receptor expression following induction of sepsis in rats

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ABSTRACT. The aim of this study was to determine the effect of etomidate and propofol pretreatment on the expression of glucocorticoid receptor and the prognosis of sepsis. The sepsis rat was used as a model. During glucocorticoid treatment, etomidate and propofol were applied alone or together at different time points. Survival curves, glucocorticoid receptor expression in the rat adrenal cortex, and inflammation levels were determined. The outcome of sepsis in rats was evaluated based on the combined utilization of propofol and etomidate. The results indicated that the combined utilization of propofol and etomidate pretreatment could significantly improve the effects of glucocorticoids on rat sepsis. Etomidate was shown to enhance the expression of the glucocorticoid receptor, while propofol was shown to inhibit the inflammatory response. Etomidate was best used immediately after modeling, whereas propofol was most suitable for use during the peak inflammatory reaction. These results demonstrated that anesthetics had

the ability to enhance the effect of glucocorticoids in the treatment of sepsis. Etomidate was indicated for use in the early stage of inflammation to enhance expression of the glucocorticoid receptor, while propofol application was indicated at the peak of the inflammatory reaction owing to its strong anti-inflammation effect.

Key words: Propofol; Etomidate; Sepsis; Glucocorticoid receptor