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Efficacy and safety of remimazolam besylate -based sedation for intensive care unit patients with acute kidney injury: a prospective study

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Objectives : To evaluate remimazolam besylate sedation and to provide a more theoretical basis for individualized analgesia and sedation and rapid rehabilitation of AKI patients.

Methods : In a single-center, randomized, controlled, single-blind, prospective study, 88 AKI patients in the ICU from December 2021 to December 2022 were randomly assigned into either the propofol sedation group (control group) and the remimazolam benzenesulfonate sedation group (experimental group). Outcome measures included survival rate, occurrence of adverse reactions, length of ICU stay. Additionally, laboratory tests.

Results : The sedation cost and daily average dosage showed a significant difference, with the sedation cost in the remimazolam group being significantly lower than that in the propofol group . In comparison to the propofol group, the remimazolam group exhibited significant differences in TG levels and LDL. Additionally, the value of CREA and AST in the remimazolam group was significantly lower on the 7th day. In both cohorts, patients in the remimazolam group exhibited more stable hemodynamics and were less susceptible to hypotension. There was a significant difference in mean arterial pressure between the two groups on the 4th and 7th day . The incidence of delirium in the remimazolam group was significantly lower than that in the propofol group.

Conclusions : The safety of remimazolam in ICU surpasses that of conventional sedative medications. There is no significant length of stay in the ICU. Nevertheless, remimazolam demonstrates potential in reducing the dosage of sedative medications and associated costs for sedation. This remimazolam may offer better safety in dyslipidemia-related disease, kidney injury compared to propofol. Remimazolam has little effect on blood pressure, indicating its potential suitability for patients with hemodynamic instability when compared to conventional medications. The occurrence of delirium attributed to remimazolam is low, indicating that remimazolam may potentially decrease the prevalence of delirium.