



The Combination of Sufentanil and Remifentanil on Hemodynamic Changes During Anesthetic Induction and Endotracheal Intubation

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To the Editor:

We read with great interest the recent article by Huang, *et al.* [1], comparing the effects of sufentanil alone versus with the addition of remifentanil on hemodynamic parameters during induction.

In presenting their results comparing the use of sufentanil alone (Group S) versus sufentanil with the addition of remifentanil (Group R) we would like to point out a significant source of potential bias in their study design and reporting of results. Specifically, the authors note that in their protocol atropine was administered in the event of bradycardia and dopamine was administered for hypotension. They present the data comparing the hemodynamic parameters using the two protocols but do not present any data regarding administration of these vaso active agents. This seems like an important omission when presenting data on hemodynamic stability during induction since this would be a significant confounder. Examining the administration of atropine and

vaso pressors to see if there is any difference between the two groups is necessary in order to support their conclusions regarding the effects of sufentanil versus sufentanil plus remifentanil on hemodynamics.

In addition, we agree with their statement that they should have included an arm examining the use of remifentanil alone. They note that previous studies have shown that remifentanil may induce bradycardia and hypotension at higher doses but it seems reasonable to investigate the three groups along with the dosages of atropine and or vaso pressor required for hemodynamic stability in order to get a clearer understanding of the effects of these opioids on hemodynamics during anesthetic induction and intubation.

References

1. Huang Q, Zhang L, Mou Y, et al. (2021) The Combination of Sufentanil and Remifentanil on Hemodynamic Changes During Anesthetic Induction and Endotracheal Intubation. *J Clin Anesth Pain Mgmt*.

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