

EFFICACY OF INTRAVENOUS LIDOCAINE IN CONTROLLING EMERGENCE AGITATION IN CHILDREN FOR SURGERY UNDER SEVOFLURANE ANESTHESIA: A META-ANALYSIS



Niña Kashka E. Pamintuan, MD, DPBA¹, Ana Maria de la Cerna, MD, DPBA, FPSA²
Philippine Children's Medical Center

INTRODUCTION

Emergence agitation (EA) in children is a state of mental confusion upon waking from anesthesia resulting to traumatic injuries, dislodgement of lines, self-extubation and emotional trauma.

Lidocaine has been explored as a remedy as it is readily available, cost-effective with inhibitory and anti-nociceptive properties.

OBJECTIVES

To determine the efficacy and safety of intravenous lidocaine in controlling emergence agitation in children undergoing surgeries under sevoflurane anesthesia compared to placebo or other intravenous anesthetics.

METHODS

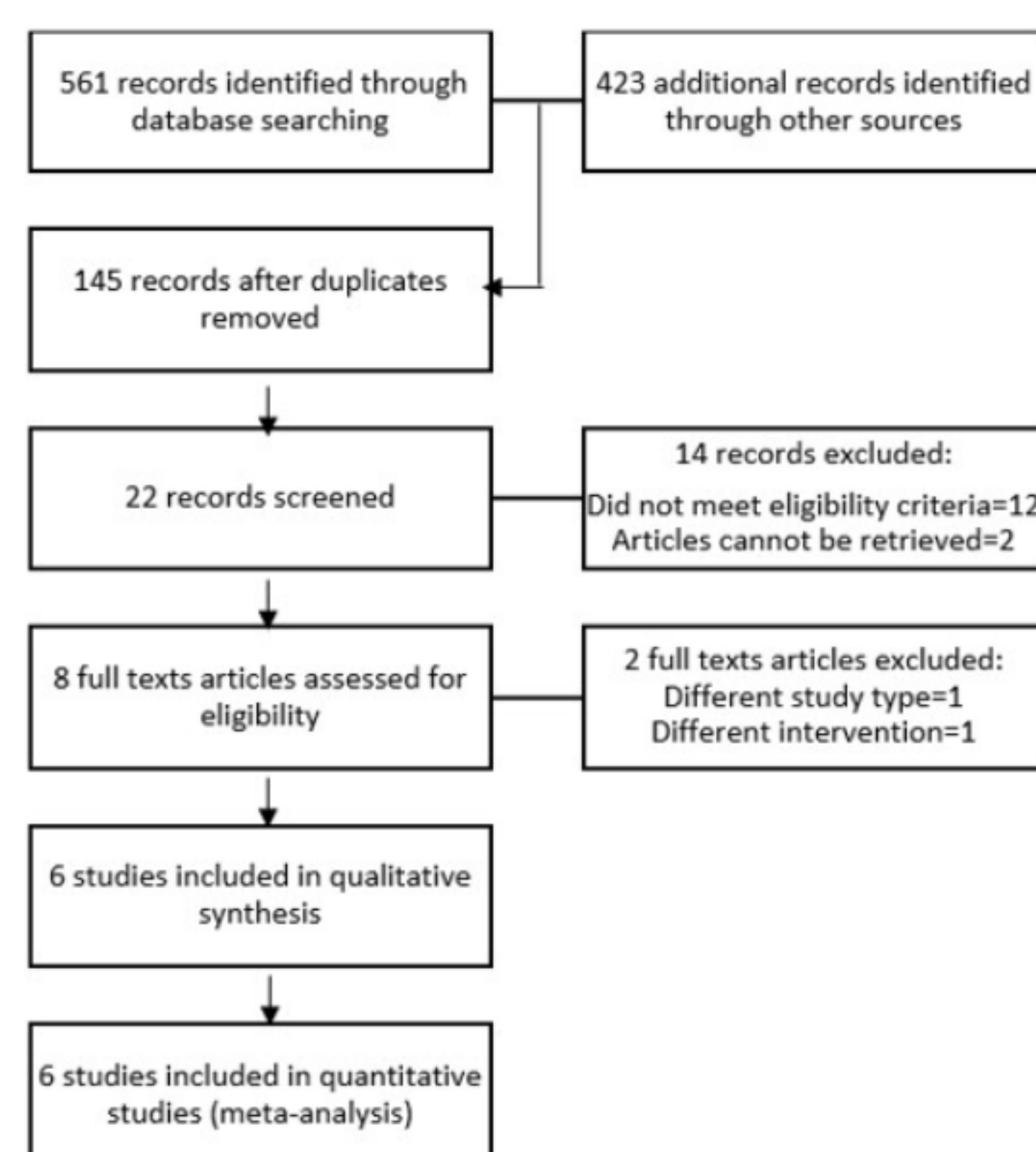


Figure I. Prisma Flow Diagram

This study is a meta-analysis, where published articles were obtained using PubMed, Cochrane Library, Clinical Trials and Goggle Scholar from August 2022. Outcome measures include incidence of emergence delirium, postoperative pain and adverse effects.

RESULTS

Forest plot showed increased risk of developing EA in patients given Lidocaine compared to comparators (RR=1.03, 95% CI [0.50, 2.13], P=0.94) however, not statistically significant.

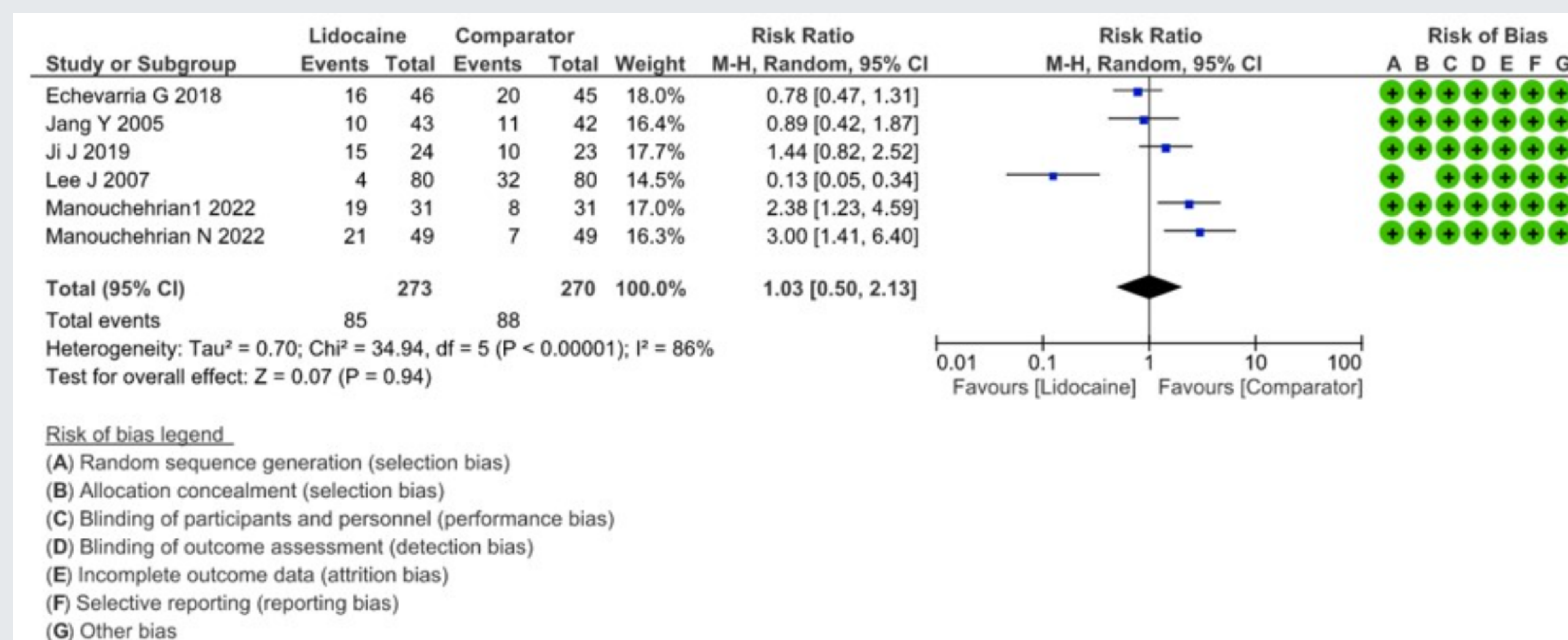


Figure II. Incidence of Emergence Agitation (EA): Lidocaine vs Comparator

Subgroup analysis by comparator (RR=2.06, 95% CI [1.32, 2.32], P=0.002) showed significant increased risk of developing EA with Lidocaine. The risk for developing postoperative pain (RR=1.47, 95% CI [0.58-3.70], P=0.42) is decreased with Lidocaine. Adverse events (RR=1.21, 95% CI [0.39, 3.75], P=0.74) were higher in the Lidocaine group but not statistically significant.

CONCLUSION AND RECOMMENDATIONS

Lidocaine given to children undergoing sevoflurane anesthesia did not decrease their risk for emergence delirium but can alleviate postoperative pain. Future studies investigating the effect of lidocaine focusing on standardized timing and mode of dose administration is recommended.