The efficacy of peri-operative dexmedetomidine in postoperative delirium: An update

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Postoperative delirium is frequent and reaches up-to 50 % and is associated with increased mortality, length of hospital stay and health care costs (1). Dexmedetomidine is a highly selective α_2-adrenergic receptor agonist, which provides anxiolysis, sedation, and modest analgesia with minimal respiratory depression (2). Recently, some meta-analyses concentrated on the use of dexmedetomidine to prevent delirium for adults who stayed in intensive care unit (ICU) without distinction between surgical and non-surgical patients. These meta-analyses showed that dexmedetomidine administration on ICU could reduce delirium incidence (3, 4). Data for non-cardiac surgical patients and perioperative use of dexmedetomidine are lacking. Therefore, we performed a meta-analysis of randomised controlled trials to address the hypothesis whether dexmedetomidine in adult patients decreases POD incidence in a general surgical population. Furthermore, we aimed to assess the effect of timing of dexmedetomidine administration and age of patients on POD incidence. Dexmedetomidine could reduce POD incidence for cardiac and non-cardiac surgical patients, administered in postoperative period and for patients ≥ 65 as well as patients < 65 years, with firm evidence from our chosen trial sequential analysis model. Nevertheless, large high quality standardised studies with POD, as primary endpoint, are needed to explore the optimal dose of dexmedetomidine and the potentially important effect of intraoperative dexmedetomidine administration, also in non-cardiac surgery. Additionally, the elucidation of patient populations with vulnerable risk factors, who would particularly benefit from dexmedetomidine administration is needed. Future studies should also focus on the effect of dexmedetomidine on core outcomes like in hospital mortality, 30-day or longer term mortality, delirium duration, length of ICU stay, length of hospital stay, length of MV, time to extubation and adverse events (5).

References:

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