

A comparison of conscious sedation with dexmedetomidine or propofol in patients who undergoing electrophysiology study (EP study).

Worapot Apinyachan M.D.* , Wichai Ittichaikulthol M.D.* ,

Naruemol Prajunpanit M.D.* ,Orawan Moontripakdi M.D.* , Amporn Jitaree M.D.*

*Department of Anesthesiology, Ramathibodi Hospital, Faculty of Medicine, Mahidol University, Bangkok, Thailand

Background : Dexmedetomidine provides profound levels of sedation without affecting cardiovascular and respiratory stability based on its pharmacological profile. Dexmedetomidine may be a valuable sedative for procedures with minimal to mild pain. Electrophysiology study is a mildly painful procedure that requires conscious sedation. We hypothesized that dexmedetomidine would be lower respiratory and cardiovascular depression than propofol during equal sedation level in electrophysiology study.

Method : Thirty-four patient were randomly allocated into two groups to receive either dexmedetomidine or propofol for electrophysiology study. Patients in the Dexmedetomidine group received a loading dose of dexmedetomidine (0.5 mcg/kg) infused over 10 min and then followed by $0.4 \text{ mcg.kg}^{-1}.\text{h}^{-1}$. Each patients in the propofol group received propofol 1mg/kg over 10 min after that followed by $3\text{mg.kg}^{-1}.\text{h}^{-1}$. All patients received pethidine(0.5 mg/ kg) before initiation of EP study. Sedation was determined using the Observer's Assessment of Alertness/Sedation. The Observer's Assessment of Alertness/ Sedation scores, hemodynamic and respiratory variables were recorded regularly during EP study.

Result : Thirty-four patient were enrolled in this study. Observer's Assessment Alertness / Sedation (OAA/S) values were similar in both groups. Respiration rate values with dexmedetomidine were significantly higher than those with propofol group and incidence of oxygen supplement in dexmedetomidine group were significantly lower than those in propofol group ($p<0.05$). Moreover, mean arterial blood pressure values of dexmedetomidine at the 5-15 min were significantly higher than those of propofol group ($p<0.05$). No incidents of severe bradycardia, hypotension in both groups.

Conclusion : In this study demonstrated that comparable sedation could be achieved with either dexmedetomidine group or propofol group during EPS . Dexmeditomidine group provided hemodynamic and respiratory stability than propofol group.