Oral Presentation

Optimal Propofol Concentration at Effect Site for Esophagogastroduodenoscopy Under Total Intravenous Anesthesia with Target Controlled Infusion

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Background and Objective : Recently, propofol sedation with target controlled infusion (TCI) is increasingly used during esophagogastroduodenoscopy (EGD) . The aim of this study is to evaluate the appropriate effect-site concentration (C_{et}) of propofol required for EGD probe insertion using TCI

Method : This prospective descriptive study was done in 40 patients scheduled for elective EGD at endoscopic unit, Srinagarind hospital. Patient were devided into 2 groups depend on age, Group 1 (Age 18-64 years) and group 2 (≥65 years). Patients were premedicated with fentanyl 1-2 mcg/kg and 0.5-1 mcg/kg, respectively. Anesthesia was induced with a propofol via target TCI. Propofol was started at C_{et} of 3 mcg/mL in Group 1 and 2 mcg/mL in Group 2. Response during EGD probe insertion of each patient determined the C_{et} of propofol for the next patient by the Dixon up-and-down method at an interval of 0.3 mcg/mL. EC_{50} and EC_{95} of propofol and 95 % confidence intervals (CIs) will calculated using the mean cross-over midpoint in each group.

Results : 21 and 19 patients were included in group 1 and 2, respectively. In Group 1, The EC_{50} of propofol for EGD were 3.3 mcg/ml (95%CI, 3.05-3.55 mcg/ml) and the EC_{95} of propofol for EGD were 3.05 mcg/ml (95%CI, 2.75-3.35 mcg/ml).In Group 2, The EC_{50} of propofol for EGD were 3.05 mcg/ml (95%CI, 3.34-4.16 mcg/ml) and the EC_{95} of propofol for EGD were 3.05 mcg/ml (95%CI, 2.92-3.18 mcg/ml).

Conclusion : The appropiate Cet of propofol for anesthesia during EGD using TCI was 3.75 mcg/mL in patient age 18-45 years and 3.05 mcg/mL in patient age ≥65 years.

Keywords : Propofol; TCI; EGD; Effect-site concentration