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The Assessment of Anesthetic Depth by Quantitative Electroencephalography in Intravenous Anesthesia by Intermittent Bolus Injection

Soo-Han Lee, Chun-Sik Bae[1], Gyu-Jeong Noh[2,3], Kyun-Seop Bae[3], Jin-Young Kim, and Byung-Hyun Chung*

College of Veterinary Medicine, Konkuk University,
[1]College of Veterinary Medicine, Biotechnology Research Institute, Chonnam National University,
Department of [2]Anesthesiology and Pain Medicine, and [3]Clinical Pharmacology and Therapeutics,
Asan Medical Center, University of Ulsan College of Medicine

Meterials and methods: To assess anesthetic depth using quantitative electroencephalography (q-EEG), we recorded processed EEG(raw EEG) till 100 minutes in beagle dogs anesthetized for 60 minutes with tiletamine/zolazepam(n=5, TZ group), xylazine/ketamine(n=5, XK group) and propofol(n=5, PI group) by intermittent bolus injection.

Results: Raw EEG was converted into 95% spectral edge frequency(SEF) and median frequency(MF) through fast fourier transformation(FFT) method. 95% SEF valueof TZ group was significantly higher($p<0.05$) than the XK group from 10 minutes to 100 minutes. 95% SEF value of PI group was significantly higher($p<0.05$) than the XK group from 10 minutes to 40 minutes, and significantly low($p<0.05$) than XK group at 90 and 100 minutes. MF was significantly higher($p<0.05$) in TZ group from 60 minutes to 100 minutes.

Clinical relevance: Based on these results, using dissociative agent with a2-adrenergic agent is more potent in CNS depressed than using dissociative agent alone, and low doses of propofol has a disinhibitory effect on CNS.

*Corresponding author: chungbh@konkuk.ac.kr