The Effectiveness of Nifekalant Hydrochloride for Treatment of Refractory Ventricular Arrhythmia

Minoru Tagawa¹, Masaomi Chinushi², Yukie Ochiai¹, Yuichi Nakamura¹, Yoshifusa Aizawa³

¹Department of Cardiology, Nagaoka Chuo General Hospital, Japan; ²School of Health Science, Niigata University; ³First Department of Internal Medicine, Niigata University

Methods: A total of 24 consecutive patients suffered sustained ventricular tachycardia (VT) (group A: n=13), ventricular fibrillation (VF) (group B: n=7) or repeated non-sustained ventricular tachycardia (NSVT) (group C: n=4). Ventricular arrhythmia (VA) was complicated with ischemic heart disease (IHD) in 11 patients (group I) and with other diseases in another 13 patients (group non-I). Nifekalant hydrochloride (NIF) was administered during cardiopulmonary resuscitation (CPR) in 13 patients.

Results: NIF administration was effective in terminating VA in 19 of 24 patients (79.2%). NIF administration directly terminated VT in 6 patients, and VT was successfully cardioverted using additional direct-current (DC) shock after NIF administration in another 4 patients in group A with DC shock-resistant VT. Refractory VF was also successfully cardioverted by additional DC shock after NIF administration in 4 patients in group B. Repeated NSVT was not undertaken after NIF administration in all patients in group C. NIF was effective in terminating VA in all patients in group I as well as in 8 patients in group non-I. In 11 of 17 patients, continuous intravenous NIF infusion prevented the recurrence of VA. VA was successfully controlled by continuous intravenous infusion of NIF in 6 of 10 patients in group I.

Conclusion: Nifekalant was effective in terminating refractory ventricular arrhythmia.

Keywords: Nifekalant hydrochloride, refractory ventricular arrhythmia, ischemic heart disease