J wave can be a marker of ventricular arrhythmias and may be related to sudden cardiac death but, the clinical significance of J waves in STEMI are unknown. We examined the prevalence of J wave and its relation to ventricular arrhythmias in 65 STEMI patients. STEMI was diagnosed from ECG. Culprit lesion was confirmed at catheterization in all patients and they were underwent reperfusion therapy. Presence of J waves and ventricular arrhythmias were determined in ECGs recorded one week after the onset of MI and in the monitor ECGs during hospitalization. J wave was found in 40 of 65 cases (61.5%) which was significantly higher than that observed in the general population; 11.6% (P<0.0001). The age, gender, elevation of ST-segment, peak CPK, cardiac function, and the culprit lesions were not different between those with and without J wave. However, ventricular premature contractions (VPC) or non-sustained ventricular tachycardia (NSVT) was found more often in the patients with J wave compared to those without (P<0.001). Furthermore, premature index (=coupling interval divided by the preceding R-R interval) was shorter in those with J wave (P<0.05). As conclusion, a higher prevalence of J wave was found in patients with STEMI and the patients with J waves had more frequent VPCs or NSVTs. Furthermore, these ventricular arrhythmias was associated with shorter prematurity index and suggested a presence of arrhythmogenic substrate.

Keywords: J wave, STEMI, VPC