The etiologic basis of transient left ventricular apical ballooning, a novel cardiac syndrome, is not clear. Among the proposed pathomechanisms is coronary vasospasm. Long-term ST segment analysis may detect vasospastic episodes but has not been reported. 30 consecutive patients with transient left ventricular apical ballooning, left ventricular dysfunction and normal or near-normal coronary arteries were investigated. A 24-hour Holter ECG was obtained after emergency admission. ST segment analysis was performed automatically in 2 leads and confirmed by visual inspection. Criteria for an ischemic event were: 1. ST elevation or 2. horizontal or down-sloping ST segments \( \geq 1 \) min duration and \( \geq 100 \) µV J+80 point deviation corrected for baseline ST-deviation. Patients presented with ST segment elevation \((n = 19)\) and/or T wave inversion \((n = 20)\) on admission ECG. Ejection fraction was 50±12%. No transient ST elevations were observed during Holter ECG analysis. In 3 patients, 8 transient episodes of ST depression were recorded. Durations of episodes varied between 75 s and 790 s (mean 229 s). Maximal ST deviation averaged \(-191 \pm 71 \) µV. Ischemic burden was \(-1\) to \(-22\) mVs (mean \(-8\) mVs). 27 patients showed no ischemic events. ST segment analysis of 24 h Holter recordings revealed minor ischemic events in only 10% of patients with transient left ventricular apical ballooning. Overall, ST segment
changes were not indicative of recurrent coronary spasm playing a major role in the genesis of transient left ventricular apical ballooning.