The relation between early repolarization and left ventricular muscle band

Background and objective: The left ventricular false band (LVFB) is a discrete, fibromuscular structure that traverses the left ventricular cavity. Some LVFBs contain longitudinal conduction tissues suggesting that they may contribute to the occurrence of ventricular arrhythmias. Few recent studies have suggested an association between early repolarization and the presence of LVFB previously. Due to lack of insufficient supporting data, however, further studies are needed in this regard. So the present work sought to investigate a possible relation between the LVFB and early repolarization.

Methods & Materials: A total of 45 patients with early repolarization (cases) and 45 age- and sex-matched controls (without early repolarization) were recruited from Madani Teaching Heart Center during a 17-month period of time. Subjects with acute or chronic ischemic heart disease and those with cardiac valve disease were not included. Frequency of electrocardiographically detected LVFBs, as well as their number, size and location were compared between the two groups.

Results: Both the case and the control groups comprised 44 males and 1 female. The mean age of patients in the case group was 29.7±8.8 years (range: 15-51) vs. 30.0±9.0 years (range: 15-53) in the control group (p=0.87). While the LVFB was more common in the case than in the control group, the difference did not reach a statistical level of significance (8.9% vs. 6.7%, p=0.5). The two groups were comparable for the number (p=0.1), length (p=0.77), width (p=0.38) and location of the LVFBs (p indefinable).

Conclusion: In the present work the LVFB was more common in patients with than without early repolarization, however, the difference was not statistically significant. Further studies with larger sample sizes are needed.

Keywords: Left Ventricular Fibrous Band, Early Repolarization, Echocardiography.