P wave polarities of an arrhythmogenic focus in patients with paroxysmal atrial fibrillation originating from superior vena cava or right superior pulmonary vein.

謝敏雄

Kuo JY;Tai CT;Tsao HM;Hsieh MH;Tsai CF;Lin WS;Lin YK;Ding YA;Hou CJ;Tsai CH;Chen SA.

摘要

Abstract

INTRODUCTION: The superior vena cava (SVC) and right superior pulmonary vein (RSPV) are anatomically close structures. Using 12-lead ECG may facilitate identification of ectopic foci from SVC or RSPV. The aim of this study was to assess whether P wave polarity on surface ECG is helpful in distinguishing an arrhythmogenic focus of paroxysmal atrial fibrillation (AF) from SVC or RSPV. METHODS AND RESULTS: Thirty-four patients with paroxysmal AF from the SVC (group I: 17 patients, 10 men and 7 women; mean age 57 +/- 12 years) or RSPV (group II: 17 patients, 15 men and 2 women, mean age 62 +/- 14 years) underwent electrophysiologic study and radiofrequency (RF) catheter ablation. All of the AF foci were confirmed by successful ablation. P wavepolarities on surface ECG inferior leads were positive during sinus rhythm and ectopic beats in both groups. Leads I, aVR, aVL, and V1 were further analyzed. Sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) in predicting an arrhythmogenic focus of AF from SVC or RSPV were provided. P wave polarity in lead aVR was negative in all 34 patients. P wave polarity in lead V1 was positive in 47.1% of SVC ectopy but positive in all RSPV ectopy. The combination of a biphasic or isoelectric P wave polarity in lead V1 or a biphasic P wave polarity in lead aVL had a sensitivity of 71%, specificity of 82%, PPV of 80%, and NPV of 74% in predicting an arrhythmogenic focus of AF from SVC. CONCLUSION: P wave polarity in leads V1 and aVL may predict an arrhythmogenic focus of AF from SVC or RSPV