Role of Signal-Averaged ECG in Predicting Results of Flecainide Provocation Test Used in Family Screening for Brugada Syndrome

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MOK ET AL.: Role of Signal-Averaged ECG in Predicting Results of Flecainide Provocation Test Used in Family Screening for Brugada Syndrome. Brugada syndrome (BS) is an inherited arrhythmogenic disease with an autosomal dominant mode of inheritance. Flecainide provocation test (FPT) has been shown to be highly sensitive and specific in unmasking the Brugada ECG pattern in affected subjects. We sought to test if late potential (LP) in signal-averaged electrocardiogram (SAECG) is helpful in predicting the results of FPT used in family screening for BS. The study included 17 asymptomatic Chinese subjects from 8 families (M:F 10:7, mean age 24.8±11.4 years) who have undergone family screening for BS. All screened subjects had a normal 12-lead ECG at baseline. None had structural heart disease. SAECG using a time domain analysis was recorded prior to the FPT. LP is defined as positive when at least 2 of the 3 criteria are met: (1) filtered QRS duration >114ms; (2) root-mean square voltage of terminal 40ms of QRS ¡¥020mV; (3) low-averaged signal <40mV of terminal QRS ¡Ý38ms. Seven subjects had a positive LP on SAECG. Among them 3 had a positive FPT. As for the 10 subjects with a negative LP, none had a positive FPT. Thus in predicting the results of FPT among these subjects, LP on SAECG has a sensitivity, specificity, positive predictive value and negative predictive value of 100%, 76.9%, 42.8% and 100% respectively. Conclusion: LP on SAECG has a high sensitivity and negative predictive value in predicting results of FPT used in family screening for BS. (J HK Coll Cardiol 2002;10:105-108)

Key words: Brugada syndrome, flecainide, signal-averaged electrocardiography, ST-segment elevation