Multi-center Study of Brugada Syndrome

Brugada syndrome is characterized by unique ECG changes with a high incidence of sudden cardiac death due to attacks of ventricular fibrillation (VF) in apparently healthy individuals. For some unknown reason, Brugada syndrome is prevalent in South-East Asian countries including Japan. After the first report by Brugada and Brugada\(^1\), the syndrome has strong and wide attention in Japan. Because of relatively high incidences as well as clinical importance as a major cause of sudden cardiac death in subjects without structural heart diseases, significant contributions to clarifying the pathogenesis and diagnostic clues of Brugada syndrome have been presented by Japanese physicians\(^2\). While significance of Japanese individual study appears to be appreciated as original contributions for pathogenetic clarification of the syndrome, most diagnostic and therapeutic criteria, and guidelines are proposed mainly based on the studies done in western countries. It is now a general tendency that large-scaled surveys and trials are preferred as the basis of evidences for the establishment of guidelines compared to individual studies dealing with relatively small numbers of subjects from a single institution. Both types of studies, however, have merit and demerit: A large scaled survey has apparent merit to achieve wide and general consensus, but there may be certain opacity and non-uniformity as to methodology, equipments used, diagnostic and selection criteria, while a single institution study can solve some of these problems but can obtain less conclusive evidence. Therefore, two types of clinical research are mandatory to support and reinforce the study results. Considering the lack of large-scaled survey in Brugada syndrome and related conditions for long term basis in Japan, we started the multi-center survey of Brugada syndrome in Japan as the Japan Idiopathic Ventricular Fibrillation Study (J-IVFS) in 2002. The J-IVFS has an aim to clarify incidence, prevalence, diagnostic, therapeutic and prognostic clues for Japanese patients with idiopathic ventricular fibrillation including Brugada syndrome. Up to February 2007, the J-IVFS had enrollment of over 300 cases including Brugada syndrome and idiopathic VF from nearly 50 institutions throughout Japan. The clinical and electrocardiographic characteristics of Japanese Brugada patients have certain similarity as to age, gender prevalence and types of ST elevation, but have dissimilarity as to family history of sudden cardiac death, family incidences of Brugada-type ECG signs and high incidences of paroxysmal atrial fibrillation, compared to the studies in western countries (2, Takagi M, et al. unpublished observation). A follow-up study in 216 cases (a median period of 36 months) disclosed that recurrence of cardiac events (sudden cardiac death and VF) was higher in patients with previously documented VF and syncope group compared to asymptomatic group. The results showed similar tendency to those reported in Europe, but recurrence rate of cardiac events in asymptomatic group was lower. A similar multi-center study was conducted under a grant from the Ministry of Health, Labor and Welfare for 6 years and the preliminary results were summarized by Kamakura\(^3\). Unfortunately, the latter study was terminated in 2006 and the J-IVFS is the only long-term and multi-center survey of Brugada syndrome and related conditions on-going. So far, we have not reached any conclusive statement as to genesis, diagnostic criteria, predictable signs of cardiac events, prognostic indices, therapeutic means other than implantable cardiac defibrillator and so on. So our study is premature to achieve fruitful results and needs longer time of follow-up with increased numbers of patients with Brugada syndrome. The information as to the J-IVFS and patient enrollment for Brugada syndrome is available through our home page (http://www.senmon-i.ne.jp/j-ivfs/). We wish a continued support by the members in interest in
Brugada syndrome and related conditions to the J-IVFS, and to similar multi-center studies to establish firm evidence from Japanese origin.

References


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