

## **Possible role of coronary artery spasm in unexplained syncope in Japan**

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Lethal arrhythmias triggered by coronary artery spasm have not been classified as the principal cause of syncope in ESC guidelines, since patients with vasospastic angina (VSA) in the United State and Europe was seen less frequently compared with those in Japan. However, the life-threatening ventricular arrhythmias are one of the most serious complications of ischemic attack caused by coronary spasm in Japan, and are associated with an increased risk of syncope and/or sudden cardiac death (SCD).

Diagnosis of VSA in unexplained syncope is based on the clinical history, including prodrome, position and activity or ECG on initial evaluation. In particular, the differentiation between VSA and other diseases can be accomplished with tilting test and other provocation tests in addition to detailed clinical history, because VSA is occasionally complicated by reflex syncope or Brugada syndrome (idiopathic ventricular fibrillation). Moreover, ECG monitoring including ILR, electrophysiological study and CAG (ACh provocation) should be carried out in suspected vasospasm-driven arrhythmias.

The indication of ICD for high-risk patients for recurrence of lethal arrhythmias due to VSA is controversial, however, it has recently been reported that ICD therapy is effective for the secondary prevention of SCD in this population.

We review possible role of coronary artery spasm in unexplained syncope in Japan.