Evaluation of pulmonary vein isolation with new Ensite Precision magnetic sensor technology

Atsushi Hiratsuka
Takatoshi Wakeyama
Takahiro Iwami
Masakazu Tanaka
Nozomu Harada
Junya Nawata
Tetsuya Matsuyama
Hiroshi Ogawa
Masafumi Yano

Introduction: Ensite Precision enables more accurate mapping by performing not only conventional impedance correction but also correction using a magnetic sensor.

Methods: We examined one year success rate after pulmonary vein isolation (PVI) in 45 consecutive patients (paroxysmal atrial fibrillation or short-standing persistent atrial fibrillation) before (n=22) and after (n=23) using a magnetic sensor. In the patients which underwent PVI with magnetic sensor, to evaluate its accuracy, the left atrium geometry with and without magnetic correction were compared with the CT image.

Result: One year success rate of anti-arrhythmic drugs in the magnetic sensor use group (91%) was significantly higher than that in non-use group (64%) (p=0.04). As a result of measuring each point in the created left atrium geometry and compared with the CT image, the difference between the created geometry and the CT image was smaller if magnetic correction was performed (Appendix).

Conclusion: Addition of magnetic sensor correction improves left atrial mapping accuracy and improves clinical outcome of pulmonary vein isolation.