Types of RFA Ablatable Arrhythmia in Northeastern Thailand, Success Rate, Complications, Recurrent Rate, and Risk Factors for Recurrence

Borwonkhun Tontivuthikul\textsuperscript{1} \quad Dujdao Sahasthas\textsuperscript{1}

\textsuperscript{1}Department of Medicine, Faculty of Medicine, Khon Kaen University, Khon Kaen, 40002, Thailand

**Background:** There were few studies focusing on the epidemiology of ablatable cardiac arrhythmia and RFCA in Thailand, especially in Northeastern population. A risk factor of recurrent arrhythmia after ablation is unknown and it has not been investigated.

**Objectives:** To identify types of ablatable arrhythmia in Northeastern patients, success rate, complications, recurrent rate, and risk factors of recurrent arrhythmia.

**Methods:** A retrospective, descriptive study from January 2011 to December 2013 in patients receiving radiofrequency catheter ablation at Queen Sirikit Heart Center (QSHC) of the Northeast. Risk factors of recurrent arrhythmia after ablation were analyzed using univariate and multivariate multiple logistic regression analyses.

**Results:** A total of 907 patients received radiofrequency catheter ablations at QSHC. Mean age at first symptom and RFA was 45.96+/−16.11 years and 48.25+/−15.69 years, respectively. Patients were predominant by female (606, 66.81%). Common comorbidities were valvular heart disease (30, 3.31%) and coronary heart disease (19, 2.09%). Palpitations were always the presenting symptoms (907, 100%), followed by fatigue (90, 9.92%) and chest pain (80, 8.82). Calcium channel blockers were most frequently used as preRFA medical treatment (568, 62.62%), followed by beta blocker (269, 29.66). Whereas, 938 arrhythmias were diagnosed including AVNRT (472, 50.32%), left WPW (168, 17.91%), right WPW (84, 9.17%), and other arrhythmias. RFA success rate was 93.61% (849 patients). Only a few IPD complications were reported (4 patients with complete heart block requiring permanent pacemaker and 2 patients with cardiac perforation) without mortality. About 44 patients (4.85%) had recurrent arrhythmia (9 AVNRT, 9 atrial fibrillations). Location of recurrent arrhythmias were in RA (15, 42.85%), LA (9, 25.71%), and multifocal (5, 14.29%).

**Conclusion:** Radiofrequency ablations at QSHC are safe and effective procedures. Male, RFA failure outcome, and valvular heart disease are significantly associated with higher recurrent rate (OR 1.84, 1.01 – 3.34, p=0.045, OR 4.60, 1.17 – 18.09, p=0.029 and 3.499, 1.118 – 10.951, p=0.031 respectively.)

**Keywords:** Radiofrequency catheter ablation, Arrhythmia, Northeastern, Thailand, Recurrence, Risk factor