Safety and efficacy of uninterrupted and interrupted periprocedural direct oral anticoagulants in patients undergoing radiofrequency catheter ablation for atrial fibrillation

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Introduction: An optimal periprocedural anticoagulation is essential for minimizing bleeding and thromboembolic complications during catheter ablation for atrial fibrillation (AF). We prospectively compared the safety and efficacy of uninterrupted and interrupted periprocedural direct oral anticoagulants (DOACs) in patients undergoing the first radiofrequency catheter ablation (RFCA) for non-valvular atrial fibrillation (NVAF).

Methods: We randomly assigned a total of 103 consecutive NVAF patients receiving DOACs prior to the first ablation for NVAF to uninterruption (n=40) or interruption (n=63) of the DOACs on the day of the procedure. We excluded the patients undergoing the second or third session of RFCA for NVAF. Intravenous heparin was administered during the procedure and neutralized by protamine at the end of the procedure. All patients underwent brain magnetic resonance imaging (MRI) on the next day after the procedure to evaluate intracranial bleeding and infarction.

Result: Mean age was 65±12 years in uninterrupted DOAC group and 70±8 years in interrupted DOAC group. Types of AF were comparable between the 2 groups (paroxysmal AF: 40.0 % vs. 54.0 %, p=0.17; persistent AF: 35.0 % vs. 25.4 %, p=0.3; long standing persistent AF: 25.0 % vs. 20.6 %, p=0.6, respectively). No symptomatic cerebral infarction (CI) and intracranial bleeding (IB) was observed. Silent CI was observed in 15 (14.6 %) of the 103 patients, and the incidence of silent CI was similar between the 2 groups (20.0 % vs. 11.1 %, p=0.21, respectively). In 2 (1.9 %) of the all patients, silent IB was observed, and the incidence of silent IB was similar between the 2 groups (0 % vs. 3.2 %, p=0.26, respectively). The incidence of major and minor bleeding was not different between the two groups (0 % vs. 3.2 %, p=0.26; 22.5 % vs. 15.9 %, p=0.40, respectively).

Conclusion: We confirmed the safety and efficacy of the both periprocedural DOAC strategies (uninterrupted and interrupted) for preventing thromboembolic and bleeding complications. Both protocols may be feasible for periprocedural anticoagulation in NVAF patients undergoing RFCA.