Uninterrupted vs. Interrupted Dabigatran. Uninterrupted Dabigatran is Associated with Optimal ACT Control During Catheter Ablation.

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**Introduction**: Recent randomized controlled study revealed that anticoagulation with uninterrupted dabigatran was associated with fewer bleeding complications than uninterrupted warfarin in patients undergoing catheter ablation (CA) of atrial fibrillation (AF). Just recently, uninterrupted dabigatran during perioperative period has been identified as Class I in the updated guideline. However, comparisons of necessary heparin amount and activated clotting time (ACT) during procedure between the cases of interrupted and uninterrupted dabigatran have not been clarified. In the present study, we aimed to assess the safety and usefulness of uninterrupted dabigatran and investigate dynamics of activated clotting time (ACT) during the procedure.

**Methods**: From January 2012 to January 2015, 62 patients with AF who were administrated uninterrupted (N=28) or interrupted (N=34) dabigatran during perioperative period of CA of AF in Hiroshima University Hospital were retrospectively enrolled to the study. In the uninterrupted dabigatran group, dabigatran was continued till in the morning of the CA day. In the interrupted dabigatran group, dabigatran was discontinued in the evening of the previous day of CA with unfractionated heparin bridge. The dose of dabigatran was decided according to the age, body weight, and creatinine clearance level by the attending physicians (300 mg/day or 220 mg/day). During the CA procedure, unfractionated heparin was infused with target ACT 250 to 300 sec. ACT was constantly measured every 10 to 30 minutes after the first unfractionated heparin infusion by the consistent device (Hemochron® Signature, ITC, Edison, NJ, USA).

**Result**: The baseline characteristics including the CHADS2 score and HASBLED score were similar between the uninterrupted and interrupted dabigatran group. ACT before unfractionated heparin infusion was significantly higher (168±24 vs. 142±21 sec, P< 0.0001) and required heparin dose for target ACT was significantly lower (3.1±0.4 vs. 7.6±0.4, P< 0.0001; Figure-1) in the uninterrupted group. Time to target ACT was shorter in the uninterrupted dabigatran group than in the interrupted dabigatran group (21.1±1.9 vs. 27.1±1.7 min, P= 0.02; Figure-2). When we defined over target ACT as > 330 sec in our protocol, rate of patients with over target ACT was higher in the uninterrupted dabigatran group than in the interrupted dabigatran group (7 % vs. 47 %, P= 0.0003; Figure-3). Multivariate analysis revealed that uninterrupted dabigatran was independently associated with lower incidence of over target ACT during CA procedure (Odds ratio: 27.3, P= 0.003).
Conclusion: Uninterrupted dabigatran contributed to early attain to target ACT by small amount of heparin and low incidence of over target ACT during CA of AF. Uninterrupted dabigatran may help to get optimal control of ACT during CA compared to interrupted dabigatran, supporting safety of uninterrupted dabigatran.