P1860

Unfractionated heparin dose and complication rate in catheter ablation of atrial fibrillation, a comparison between uninterrupted therapy with phenprocoumon and direct oral anticoagulants

N. Poci, D. Gjermeni, V. Kuehlkamp

Herz-Zentrum Bodensee, Konstanz, Germany

Background: Catheter ablation of atrial fibrillation is known for the combining risks of thromboembolism (TE) and major bleedings. This urges a better understanding and optimization of the intraprocedural anticoagulation management. Differences in unfractionated heparin (UFH) requirements and anticoagulation time (ACT) levels between patients on different uninterrupted oral anticoagulation (OAC) agents have been studied. However, the clinical relevance, in terms of periprocedural TE and bleeding events, of UFH administration according to ACT monitoring among patients on different OAC agents, needs to be addressed.

Objective: To evaluate how the ACT monitoring and differences in intraprocedural UFH requirements among different anticoagulant agents, may translate to clinical outcome, in terms of periprocedural incidence of thromboembolic and bleeding events.

Methods: We retrospectively studied 1571 cases who underwent catheter ablation for atrial fibrillation between January 2011 and May 2017. Cases were on an uninterrupted oral OAC therapy of Vitamin K Antagonists (VKA)(713), Rivaroxaban (RG)(385), Dabigatran (DG)(260), Apixaban (AG)(192) and Edoxaban (EG)(21). First ACT measurements after the initial bolus of UFH (10000U), mean ACT measurements, total UFH doses/kg (Body Weight)/min (duration of procedure) and incidence of major periprocedural events were compared among the above OAC groups.

Results: The mean ACT (sec) was significantly lower in the AG and greater in the VKA (313,7±47 vs 340,5±49, $p<0,001$). Significantly lower UFH doses (U/kg/min) were required to reach the target ACT in VKA compared to RG, DG, AG and EG (0,69±0,4 vs 1,41±0,76; 1,42±0,7; 1,63±0,8; 1,37±0,4 respectively, $p<0,001$) The proportion of patients who achieved a target ACT value within 30 minutes after the fixed first UFH Bolus of 10 000 U was significantly lower in DG and AG compared to VKA, EG and RG group (51,5% and 49% vs 53%, 71,4%, and 61,8% respectively p=0,005). The incidence of periprocedural TE events and bleedings showed no significant difference among OAC groups. However, the 22 patients with a periprocedural TE event had significantly lower UFH doses (U)/ Duration of catheter ablation (min) compared to the ones without periprocedural TE (62,71±44,5 vs 94,4±66,4, p=0,026), despite equivalent mean ACT values between these two groups. Patients with a periprocedural TE had also a significantly older Age (69,6±10 vs 64±10 p=0,01, higher CHADSVASC Score (3,64±1,76 vs 2,63±1,7 p=0,006), longer duration of procedure (188,9±79,1 vs 144,9±57 p=0,0001) and higher pre-Ablation INR values (2,2±0,6 vs 1,7±0,6 p=0,002).

Conclusions: The average UFH doses required to reach the target ACT were lower in VKA than in NOAC- groups. The incidence of periprocedural TE events and bleedings was equivalent among OAC groups. Patients with TE showed a lower UFH requirement compared to no-TE group, with both groups having mean ACT $\geq$300 sec.