NOACs in atherosclerotic CV disease

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Antithrombotic drug, NOAC is currently widely used in prevention of ischemic event in atrial fibrillation patients. Coronary artery disease is accompanied in approximately 20-45% with AF, especially in ACS is frequently accompanied with atrial fibrillation approximately 5% to 21%. As dual antiplatelet therapy is less effective in prevention of stroke in AF and oral anticoagulation therapy is less effective in prevention of coronary protection in coronary stenting patient, the issue on proper therapeutic plan in patients with CAD and AF is still debatable state. Recently widely used new oral anticoagulant, NOAC is known as effective to protection of ischemic event and safe in bleeding issue compared with warfarin. So There is much concern on NOAC treatment in CAD. In 2011, apixaban with antiplatelet therapy after ACS (APPRAISE-2 trail) showed no further gain in CV death, MI and ischemic stroke and increased TIMI major bleeding(p=0.001). ATLAS ACS TIMI 51 study using low dose Rivaroxaban showed reduced event (HR 0.84, 0.74-0.96) but increased Non-CABG TIMI major bleeding and ICH compared with aspirin or DAPT. In RELY trial post-hoc analysis, Dabigatran user with concomitant antiplatelet agent showed major and minor bleeding, ICH. PIONEER AF-PCI is first randomized comparison of VKA- and NOAC-based strategies to assess the relative risk of bleeding complications in patients with AF after PCI with stent placement. The results showed that the risk of major adverse cardiovascular events did not differ between VKA or NOAC based treatment but in safety issue, rivaroxaban with single antiplatelet had lesser bleeding compared with VKA. Recently published RE-DUAL PCI trail using dabigatran (two doses) with P2Y12 agent vs. VKA with P2Y12 and asprin showed non-inferior safety in bleeding risk and also showed non-inferior combined composite outcome of thromboembolic events, death, or unplanned revascularization). Conclusively, previous studies showed dual antiplatelet therapy or VKA therapy alone is not enough to prevent 2ndary event in new-embolic event or CAD related event in patients with CAD and AF. Recent NOAC trial in patient with AF undergoing PCI showed relatively safe comparing VKA with DAPT but no combined clinical effectiveness. So tailoring medication is recommended when the risk of bleeding is considered in AF patient undergoing PCI. Future study AUGUSTUS, ENTRUST AF and MANJUSRI trial may show further in future