

Statin is Associated With Lower Incidence of DVT Confirmed by CT Angiography in patients Undergoing Total Knee Replacement Arthroplasty

Background: Statin has potential to reduce the occurrence of venous thromboembolism in apparently healthy persons. We investigate whether statin is associated with lower incidence of deep vein thrombosis (DVT) in patients undergoing total knee replacement arthroplasty (TKRA).

Methods: We retrospectively enrolled consecutive 414 patients who received TKRA from Feb. 2006 to Jan. 2015. All the patients received computed tomographic angiography (CT-angio) of both low extremities at 7days after index surgery and some patients received pulmonary artery CT-angio. DVT and/or pulmonary thromboembolism were confirmed by expert blinded to the study group. They were analyses according to state of their chronic use of statin of any kind.

Results: One hundred and ten patients are statin users and 304 are non-statin users. The occurrence of DVT is significantly higher in statin naive patients as compared in statin users, 33.5% vs. 10.5%, (HR 0.35, CI 0.151-0.752, $p=0.035$). By multiple regression analysis, statin use was an independent risk factor for the occurrence of DVT (HR 3.02, CI 1.536-6.382, $p=0.021$). Age and smoking were also independent predictors for DVT. Pulmonary thromboembolism (PTE) did not occur in statin group (0%) but occurred in 20 patients (8.2%) in non-statin users with significant difference (HR 0.60, CI 0.385-0.852, $p=0.041$). No mortality was found during hospitalization in both groups.

Conclusion: Statin may be associated with lower occurrence of DVT and PTE in high risk patients who are undergoing TKRA. This results warrant further prospective randomized studies to evaluate the statin as prophylactic measures against DVT.