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# THE USE OF VASCULAR CLOSURE DEVICES REDUCES THE RISK OF MAJOR ACCESS SITE COMPLICATIONS IN PATIENTS WITH CHRONIC KIDNEY DISEASE UNDERGOING PRIMARY PERCUTANEOUS CORONARY INTERVENTION VIA FEMORAL ROUTE

i2 Poster Contributions
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**Background:** Patients with chronic kidney disease (CKD) undergoing primary percutaneous coronary intervention (PCI) for acute ST-segment elevation myocardial infarction (STEMI) are at high risk of femoral artery complications. A lack of information exists regarding the use of vascular closure devices (VCDs) in this group of patients because they have been routinely excluded from randomized trials. This study sought to evaluate the safety and efficacy of the routine use of VCDs after primary PCI in patients with CKD.

**Methods:** A total of 558 consecutive patients (mean age 62.1 ± 12.5 years, 76.9% male) undergoing primary PCI for STEMI via femoral route were studied for in-hospital outcomes through a prospective registry from January 2003 to December 2008. CKD was defined as creatinine clearance less than 60 mL/min calculated using the Cockcroft-Gault formula. The primary endpoint was the presence of major vascular complication (MVC) defined as a composite of fatal access site bleeding, access site complication requiring interventional or surgical correction or access site bleeding with ≥ 5 g/dL drop in haemoglobin or requiring blood transfusion.

**Results:** Of the total patients, 165 (31.4%) had baseline CKD. The primary endpoint occurred in 18 (3.4%) patients. Patients with CKD experienced higher rates of MVC compared with those without worsening of renal function (6.1% vs. 2.2; p = 0.024). Among patients with CKD, 128 (77.6%) received a VCD and manual compression was used in 37 patients (22.4%). The risk of MVC was significantly lower with VCDs compared with manual compression (3.1% vs. 16.2%, p = 0.009). Multivariable logistic regression analysis determined that VCDs use was the strongest independent predictor of freedom from MVC among patients with CKD undergoing primary PCI (odds ratio, 0.11; 95% CI, 0.03 to 0.48; p = 0.003).

**Conclusions:** Patients with CKD undergoing primary PCI via femoral route are at high risk of vascular access site complications. The use of VCDs in this group of patients is safe and reduces major vascular complications compared with manual compression.