Ambulatory Discharge Following Transradial Coronary Intervention: Preliminary U.S. Single-center Experience (Same-day TransRadial Intervention and Discharge Evaluation, the STRIDE Study)

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Background: Although the safety and cost-effectiveness of same-day discharge after uncomplicated transradial percutaneous coronary intervention (TR-PCI) is well-established in Europe and Asia, such data are not available for United States patients.
Methods: All patients who underwent TR-PCI at our high-volume, U.S. medical center between 2004 and 2007 were included in this study. The primary endpoint was in-hospital adverse clinical outcomes between 6 and 24 hours post-procedure.
Results: A total of 450 patients were included in this study (age 59±11 years). Of these, 13% were female; 27% were diabetic; 6% had peripheral vascular disease; and 5% had chronic kidney disease. Procedural indications included: stable angina (49%), unstable angina (31%), non-ST elevation myocardial infarction (non-STEMI, 17%), and STEMI (3%). All patients received an intra-arterial cocktail of heparin, verapamil, and nitroglycerin; and 13% of patients received glycoprotein IIb/IIIa inhibitors. Seven percent of patients had 3-vessel disease; 3% had bypass grafts stenoses; and 20% had Class B2/C lesions. Procedural success rate was 96%. A total of 24 (5.3%) post-procedural complications were observed; however, none occurred between hours 6 to 24, the time differential between same-day and next-day discharge. Thirteen patients (2.9%) experienced significant complications within the first 6 hours (MI, urgent repeat revascularization, and ventricular tachycardia). Eleven (2.4%) spontaneously-resolved minor access complications developed. There were 12 same-day discharges according to operators' discretion; none required re-admission.
Conclusions: Although a low incidence of complications did occur, none would have been impacted by same-day discharge. Those observed prior to 6 hours would have prevented early discharge; and those occurring after 24 hours would have been unaffected by routine, next-day discharge. This observational study demonstrated the safety and feasibility for a prospective evaluation of ambulatory TR-PCI in an American practice setting.