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EFFECTS OF INTRACORONARY ADENOSINE ADMINISTRATION ON PREVENTING SLOW/NO-REFLOW PHENOMENON DURING ROTATIONAL ATHERECTOMY OF COMPLEX CORONARY-ARTERY LESIONS

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BACKGROUND: Data pertaining to the effects of intracoronary adenosine during high-speed rotational atherectomy (HSRA) upon slow/no-reflow phenomenon is limited. This study aimed to compare the effects of intracoronary adenosine and isosorbide dinitrate (ISDN) in preventing slow/no-reflow phenomenon during HSRA of complex coronary artery disease (CAD).

METHODS AND RESULTS: Ninety patients suffering from complex CAD underwent HSRA. Fifty-eight patients received a 0.5-mg intracoronary ISDN bolus (ISDN group) and 32 patients received a 50-μg intracoronary adenosine bolus (adenosine group) prior to the initiation of burr rotation and during each ablation. Baseline characteristics were similar for the two groups. The procedural success rate was greater for the adenosine group than for the ISDN group (96.9% vs. 89.7%). There was no difference in the lesion types or burr to artery ratio between the two groups. Seven patients demonstrated slow/no-reflow phenomenon following HSRA including 1 patient (3.1%) from the adenosine group and 6 patients (10.3 %, p=0.41) from the ISDN group. There was no inhospital mortality or target vessel revascularization.

CONCLUSIONS: The use of intracoronary adenosine during HSRA is safe and effective, and sets a trend toward a lower incidence of HSRA-related slow/no-reflow phenomenon and a greater success rate for this procedure when compared with intracoronary ISDN.

Keyword: adenosine, rotational atherectomy, slow/no-reflow phenomenon