CREST
Cilostazol for Restenosis Trial

Background

Cilostazol is a novel drug that increases the concentration of cyclic AMP within the platelets by selectively blocking phosphodiesterase III, thereby inhibiting platelet aggregation. Animal studies have shown that cilostazol also inhibits smooth muscle cell growth by inhibiting DNA synthesis. Previous small studies have shown that cilostazol may not only prevent subacute stent thrombosis, but also may have a positive effect in the prevention of restenosis.

Aim

To evaluate whether cilostazol will prevent restenosis after stent implantation in a native coronary artery, as evaluated by quantitative coronary angiography (QCA)

STUDY DESIGN

Multicenter (19 sites) randomized double-blind trial

Study Duration

4.8 years

INCLUSION CRITERIA

Patients with de novo lesions who underwent successful stenting (<40 mm)

EXCLUSION CRITERIA

Prior percutaneous intervention within 6 months, thrombocytopenia, known bleeding diathesis, known intolerance to cilostazol, acute myocardial infarction, heart failure, renal insufficiency (serum creatinine >2.5 mg/dl), intraluminal thrombus

PATIENT NUMBER

705

STUDY GROUPS

Group 1: Cilostazol 100 mg bid + Aspirin + Clopidogrel (n=354)
Group 2: Aspirin + Clopidogrel (n=351)

STUDY DURATION

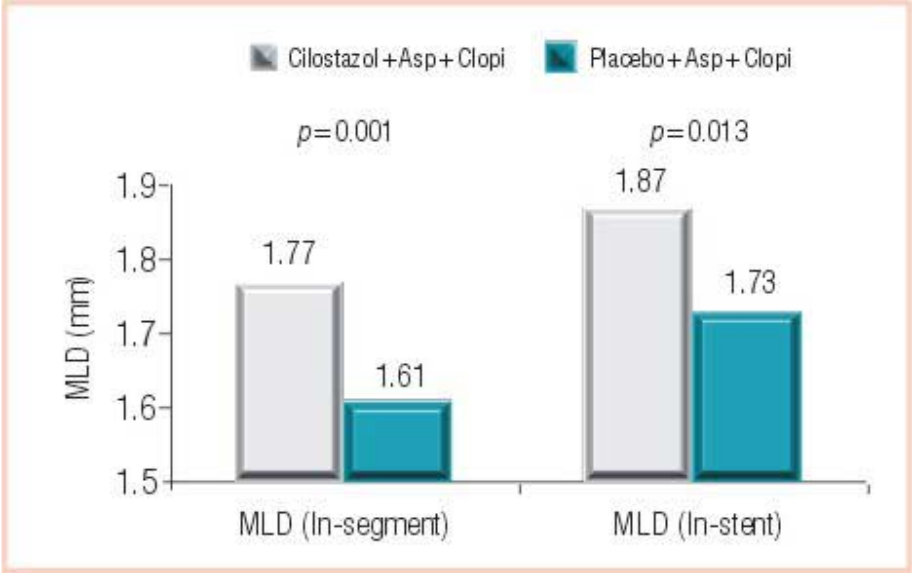
6 months

PRIMARY END POINT

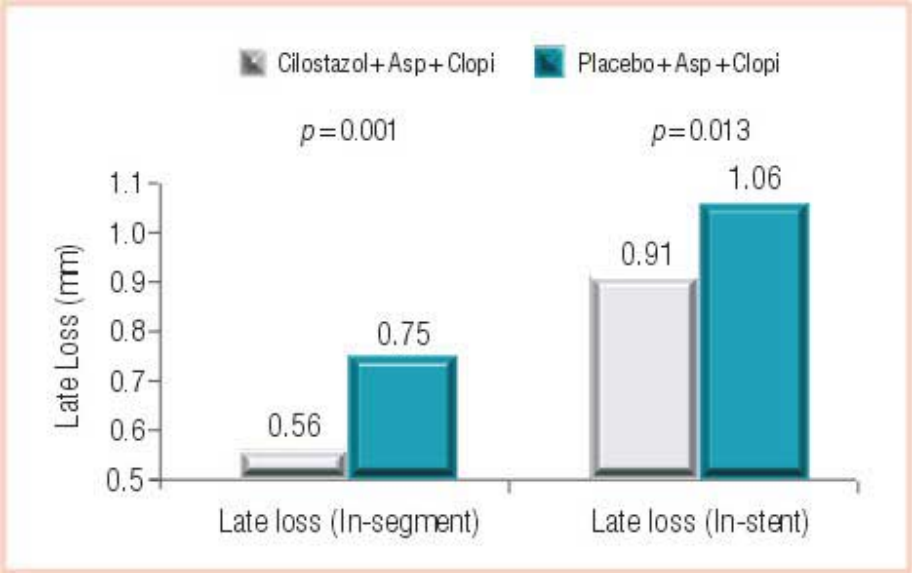
Minimal lumen diameter (MLD) at 6 months of the first lesion stented per patient as assessed by QCA

RESULTS

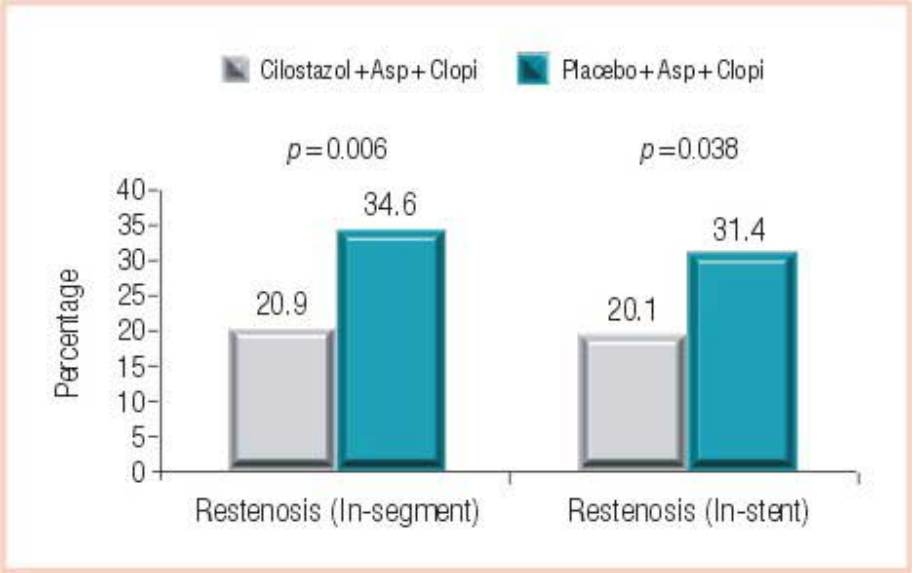
• In-segment and in-stent MLD was significantly larger in the cilostazol group



- **Late loss was significantly lower in cilostazol-treated patients**

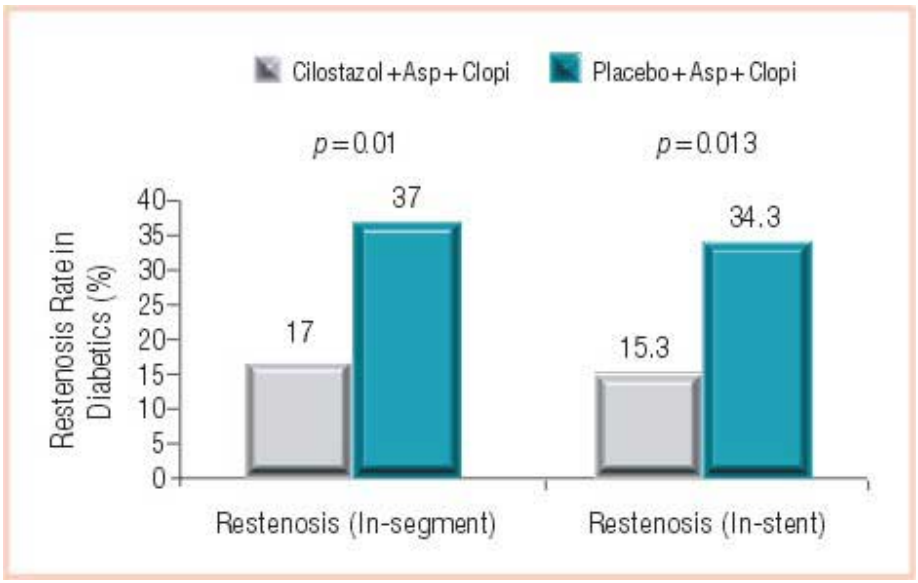


• In-segment and in-stent restenosis occurred significantly less frequently in the cilostazol group

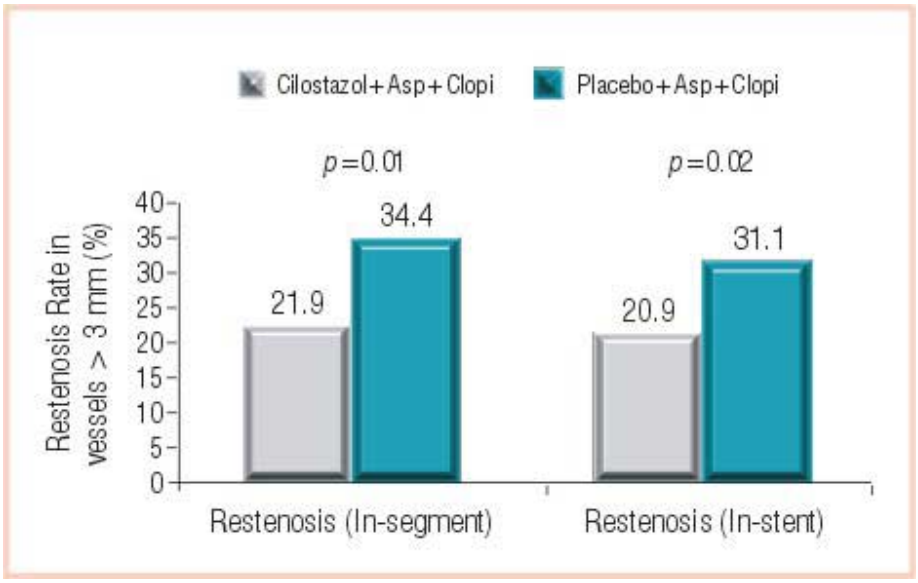


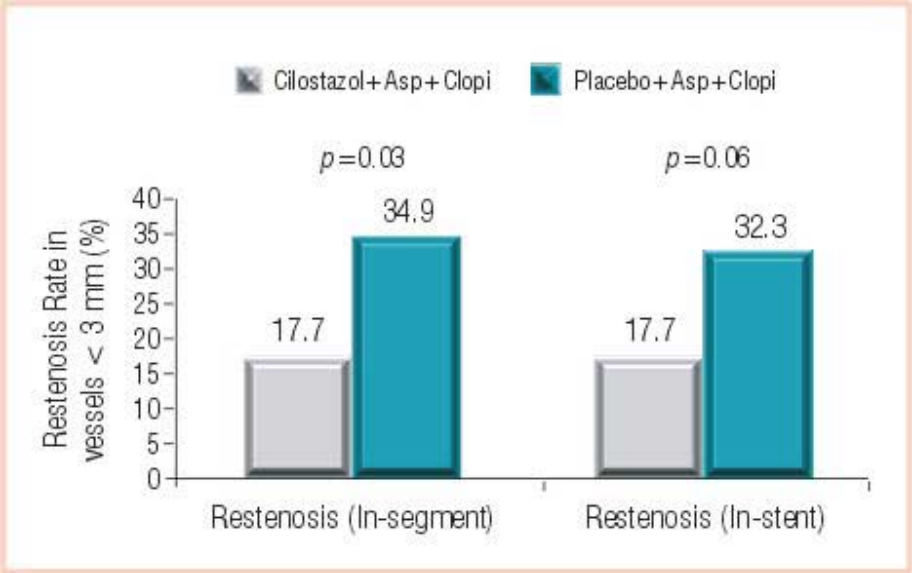
Use of cilostazol was associated with a 39.5% relative risk reduction in the rate of binary restenosis

• Cilostazol was also associated with significantly lower rates of restenosis in diabetics



• Significantly lower rates of restenosis was observed with cilostazol in patients with vessels > 3 mm and those with vessels < 3 mm





CONCLUSION

• Cilostazol taken orally after successful stent implantation significantly reduced the rate of restenosis
• Benefit was extended to the diabetic and small vessel subgroups