OBJECTIVES: This study sought to investigate the influence of vessel size on the outcomes of patients after drug-eluting stent (DES) implantation.

BACKGROUND: There are no dedicated studies on the influence of vessel size on the outcomes of patients treated with different DES.

METHODS: The study population was composed of 2,058 consecutive patients who received sirolimus-eluting stents (SES) or paclitaxel-eluting stents (PES). Patients were grouped into tertiles according to vessel size (2.84 mm in the upper tertile). The primary end point was target lesion revascularization (TLR). Secondary end points were binary angiographic restenosis and the composite of death or myocardial infarction.

RESULTS: Vessel size did not influence the composite end point of death and myocardial infarction. The TLR rates were higher among patients in the lower tertile (12.1%) as compared with the middle (8.4%) and upper (8.0%) tertiles (p = 0.02). In a multivariate analysis, vessel size emerged an independent predictor of TLR (p = 0.009). The model showed also a significant interaction between DES type and vessel size regarding TLR (p = 0.008). There was a significant difference in TLR rates among patients treated with SESs (8.6%) and PESs (16.4%) in the lower tertile (p = 0.002), but not in the middle and upper tertiles.

CONCLUSIONS: The
influence of vessel size on restenosis is related to the specific DES used, with SESs providing better outcomes than PESs in small but not in large coronary vessels.