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Midterm outcome of coronary artery stenting using drug-eluting stents and bare-metal stents with small diameters

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Drug-eluting stents (DES) are considered superior to bare-metal stents (BMS) for reducing restenosis, especially in cases requiring small-diameter stents. The aim of our study is to assess the development of midterm restenosis on stenting with small-diameter DES (2.5mm) versus small-diameter BMS (2.5mm or 2.25mm).METHODS:This study included 248 cases, and a total of 415 stents were used. 333 stents were 2.5mm DES, 50 were 2.5mm BMS, and 32 were 2.25mm BMS. A follow-up coronary angiography was performed within 12 months after stenting, and stent failure (SF) was defined as over 75% restenosis.RESULTS:Early or late thrombosis was not observed. The overall SF was 17.8%. SF with 2.5mm DES was 12.0% (40 of 333); with 2.5mm BMS, 26.0% (13 of 50); and with 2.25mm BMS, 53.1% (17 of 32). In the DES group, SF with everolimus-eluting stents was 3.2% (2 of 62); with sirolimus-eluting stents, 10.5% (22 of 210); and with paclitaxel-eluting stents, 25.0% (13 of 52). In the 2.5mm BMS group, SF with MultiLink Pixel stents was 11.8% (2 of 17); with MicroDriver stents, 17.6% (3 of 17); and with MiniVision stents, 53.8% (13 of 19).CONCLUSIONS:Development of midterm restenosis of small-diameter stents was less likely with DES than with BMS. However, our findings showed that the stent type effects on the development of restenosis.