

BACKGROUND

In-stent restenosis (ISR) remains the leading cause of target lesion failure following percutaneous coronary intervention (PCI).

METHODS

We examined ISR incidence, time-to-repeat PCI, treatment modality, and target lesion among 217,134 PCI performed from April 2018 through March 2024 using the Blue Cross Blue Shield of Michigan Cardiovascular Consortium (BMC2) PCI registry, a clinical registry of all PCI cases at non-federal hospitals in the state of Michigan.

RESULTS

The incidence of repeat PCI to treat ISR was 9.8% (n=21,260). ISR was most commonly treated with drug-eluting stents (67.8%), followed by balloon angioplasty alone (31.9%) and brachytherapy (2.1%). Median time to repeat PCI was 39 months (interquartile range [IQR], 11-110 months). Compared to non-ISR PCI, PCI for ISR occurred more frequently for right coronary artery (RCA) (35.3% vs. 31.6%; p<.001) and left main coronary artery (LMCA) lesions (4.8% vs. 3.6%; p<.001). PCI for ISR accounted for 12.4% of all LMCA PCI, and of all coronary vessels, LMCA had the shortest time to repeat PCI for ISR (17 months; IQR, 7-94 months). Ramus and left circumflex artery ISR lesions had shorter times to repeat PCI compared with left anterior descending artery and RCA (p<.001).

CONCLUSION

The incidence of PCI for ISR was 9.8%, with a median of 39 months for repeat PCI. LMCA PCI had the highest incidence of PCI for ISR and the shortest time to repeat PCI for ISR.

ISR PCI is common, accounting for nearly 10% of all PCI performed.

The median time to repeat PCI for ISR is 39 months.

Left main PCI has the shortest median time to repeat PCI for ISR – 17 months.

FIGURE 1

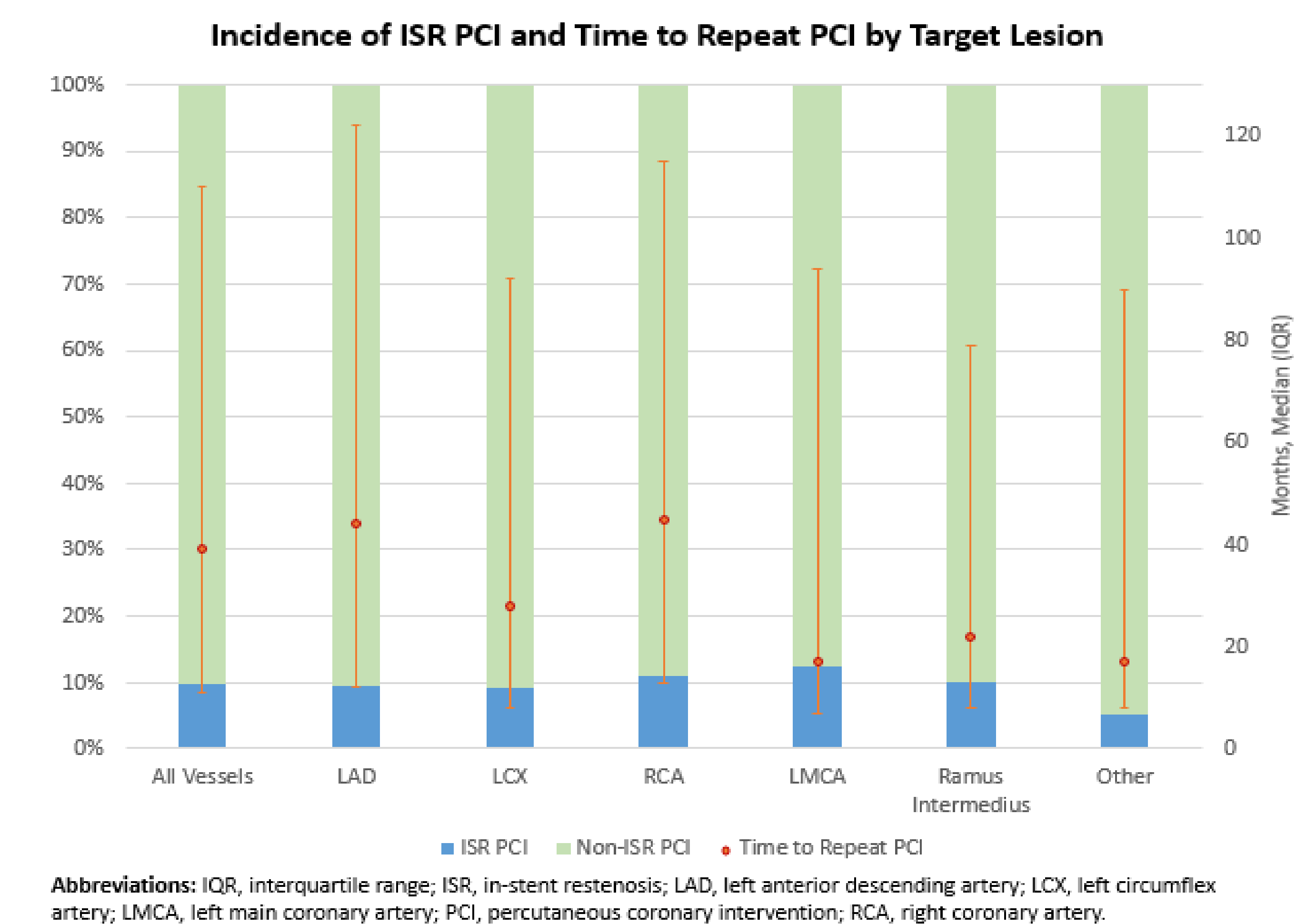


FIGURE 2

