

# Novel score system accurately identifies lesions, reducing risk of percutaneous coronary intervention complications

May 2 2024

---



Credit: Pixabay/CC0 Public Domain

New data demonstrated that a left main (LM) bifurcation-specific novel scoring system (LM V-RESOLVE), based on three simple baseline

angiographic findings, could help to rapidly discriminate lesions at risk of side branch (SB) occlusion during LM bifurcation percutaneous coronary intervention (PCI)—reducing risk during the procedure.

The results from the prospective trial were presented today as late-breaking science at the [Society for Cardiovascular Angiography & Interventions \(SCAI\) 2024 Scientific Sessions](#).

PCI is a non-surgical procedure that uses a catheter to open blood vessels in the heart that have been narrowed by plaque buildup. Bifurcation PCI, performed with stent implantation in the main branch of the coronary artery, is often associated with an increased risk of major adverse cardiovascular events.

SB occlusion, or blockage, is one complication in bifurcation PCI that can result in vessel closure, ischemia, [myocardial infarction](#), or death. Understanding the risk of SB occlusion is critical for optimal stenting strategies and decisions.

The study analyzed 855 patients undergoing unprotected LM bifurcation PCI with provisional strategy at Fuwai Hospital in Beijing, China from January 2014 to December 2016. A [prediction model](#) was selected by all subsets [logistic regression](#), and a multivariable risk score was established with incremental weights attributed to each component variable based on its estimate coefficients.

SB occlusion was defined as any decrease in TIMI (thrombolysis in myocardial infarction) flow grade or absence of flow in SB after main vessel (MV) stenting.

In the multivariable model, three routinely assessed angiographic variables (MV/SB diameter ratio, MV plaque ipsilateral to SB, and baseline diameter stenosis of SB) were independent predictors for SB

occlusion. The [risk score](#) had a C-statistics of 0.830 with good calibration, indicating good diagnostic accuracy.

SB occlusion occurred in 19 (2.22%) LM bifurcation lesions. These results demonstrate that the novel LM V-RESOLVE score provides a strong model to find lesions at risk for SB [occlusion](#) for LM bifurcation PCI.

"SB occlusions present serious risks for patients, so it is imperative that we are using the best models to determine the risk and inform treatment strategies," said Hao-Yu Wang, MD, Fuwai Hospital in Beijing, China, Chinese Academy of Medical Sciences & Peking Union Medical College (CAMS & PUMC) (CAMS & PUMC), and lead author of the study.

"The use of the novel LM V-RESOLVE score may facilitate decision-making for precise LM stenting strategy, benefitting patients and instilling greater confidence for physicians."

**More information:** "A novel angiographic scoring system predicting side branch occlusion for left main bifurcation PCI: the LM V-RESOLVE score," Thursday, May 2, 2024; 10:13-10:20 AM PT [scai.org/scai-2024-scientific-sessions](https://scai.org/scai-2024-scientific-sessions)

Provided by Society for Cardiovascular Angiography and Interventions

Citation: Novel score system accurately identifies lesions, reducing risk of percutaneous coronary intervention complications (2024, May 2) retrieved 18 June 2024 from <https://medicalxpress.com/news/2024-05-score-accurately-lesions-percutaneous-coronary.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.