

UBC-Providence health team identifies a key predictor of cardiovascular death

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Coronary Artery Disease (CAD) hospitalizes more than 160,000 Canadians every year, and almost one quarter of those patients die from this common form of heart disease. But now a team of Vancouver-based researchers has identified a key predictor of mortality in CAD patients, which means that specialists can better determine how to treat and improve outcomes for patients with CAD.

Coronary artery disease is the most frequent cause of heart disease and occurs when important [blood vessels](#) become narrow or blocked and can no longer give enough blood to meet the heart's demand.

In an article published today in the prestigious *Journal of the American College of Cardiology*, researchers Claire Heslop, Dr. Jiri Frohlich, and Dr. John Hill from The Providence Heart + Lung Institute and the University of British Columbia detail their discovery, that high levels of an enzyme, myeloperoxidase, in the blood of CAD patients more than doubles the risk for death over a 13 year period. Myeloperoxidase is an enzyme associated with oxidative stress, which damages arterial tissue.

The research team, funded by the Heart and Stroke Foundation of BC & Yukon, looked at blood samples and records from a group of patients admitted to hospital in the early 1990s with symptoms of heart disease. Over a 13 year period, [mortality](#) was more than double for patients with high blood levels of myeloperoxidase than for those with lower levels.

Based on this work, the researchers were able to develop a new

classification of risk for CAD patients based on their levels of myeloperoxidase. Measurement of the enzyme provides added predictive value for cardiovascular death when compared to traditional risk factors such as smoking and diabetes. "We hope that the discovery of new markers of cardiovascular risk will help identify specific patients who could benefit from more aggressive treatment strategies" said lead investigator, Dr. John Hill.

Patients whose records and samples were used in this study all consented to have their information used for research.

The Heart and Stroke Foundation of Canada has funded researchers across Canada for over 50 years. Every year, the Foundation presents grants, awards and scholarships to leading stroke and heart disease researchers who are committed to reducing and eliminating the effects of stroke and heart disease.

"We are proud to support Canadian researchers, such as Dr. Hill, Dr. Frohlich and Ms. Heslop , who are combining their efforts to develop new techniques to fight [heart disease](#) and identify factors in at-risk individuals," says Bobbe Wood, President and CEO of Heart and Stroke Foundation of BC & Yukon. "Since almost 40,000 deaths occur in Canada each year due to CAD, it's crucial to focus on better methods to treat such a devastating health problem."

Provided by University of British Columbia

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