

BREAKTHROUGH TREATMENT FOR BLOCKED ARTERIES

FOR IMMEDIATE RELEASE:

TORONTO, December 15, 2010 – Patients who have run out of treatment options for a common heart condition have found new reason for hope in the world’s first trial of a plaque-softening enzyme.

Dr. Bradley Strauss, Chief of Sunnybrook’s Schulich Heart Centre and Reichmann Chair of Cardiovascular Sciences is conducting the world’s first clinical trial of a groundbreaking treatment for patients with coronary arteries that are completely blocked by plaque.

The promising new therapy is the first biological solution ever developed to treat chronic total occlusions (CTOs). It involves injecting the enzyme *collagenase* into a blocked artery to soften the plaque so a cardiologist can perform traditional angioplasty by sliding a small guide-wire through the otherwise impenetrable blockage and inserting a stent to re-open the artery and restore blood flow.

About 25 to 30 per cent of people tested with an angiogram at the Schulich Heart Centre are found to have at least one chronic total occlusion (CTO). Although not all patients with CTOs need to have angioplasty to open up the blocked artery, those who experience common symptoms like chest pain and difficulty breathing can benefit greatly from it. In fact, successful angioplasty can relieve their symptoms and significantly improve their quality of life almost immediately.

“Although many patients with this condition experience painful symptoms that would be relieved with angioplasty, the blockages are like cement and it is often impossible to get a guide-wire through them,” says Dr. Strauss, who is also a Professor at the University of Toronto.

Until now, efforts to treat patients with CTOs have been focused on designing stronger, more deliberate guide-wires to forge through the blockage. The success rate of this method is currently around 50 per cent, compared to 95 per cent for arteries that are only partially blocked.

“Unfortunately, the low success rate of traditional angioplasty in patients with CTOs has meant that many are not candidates for the procedure and either have to be treated with medication alone, undergo bypass surgery or live with the pain,” says Strauss.

But this new approach to treatment could change that.

Together with his team of clinician-scientists at Sunnybrook’s Schulich Heart Centre, Dr. Strauss is conducting a phase one, first-in-human clinical trial to test the safety and effectiveness of this new treatment.

With a careful eye on adverse effects, the procedure has been preformed on four groups of patients – using increasing amounts of collagenase in each group. At each dose, results have been reviewed by an independent data safety monitoring board.

Participants were selected from a group of Sunnybrook patients who have undergone at least one failed angioplasty attempt. Results of the trial will be used to determine the best dose for a large-scale clinical trial.

To-date, Dr. Strauss has performed the procedure on 19 of the 20 patients involved in the trial with a nearly 85% success rate.

The clinical trial is funded by the Canadian Institutes of Health Research (CIHR).

About Sunnybrook Health Sciences Centre

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