The Effect of Simvastatin Therapy in Heart Failure Patients

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The most common causes of death in patients with heart failure are from heart attacks and strokes. People with heart failure are more likely to form blood clots in their arteries than people who do not have heart failure. People with heart failure also have more elevated levels of inflammatory markers called tissue factor expression in the blood that causes the blood clots.

Simvastatin, also sold under the brand name Zocor®, is a medicine used to treat patients with high cholesterol and help prevent heart attacks and strokes. Previous studies have shown that people who have taken Simvastatin has also shown to reduce monocyte-tissue factor expression and interleukin-6 in vitro and ex vivo. Through Simvastatin therapy, these reductions in tissue factor expressions and interleukins may improve clinical outcomes in heart failure patients, thus reducing mortality and morbidity.

This study further is investigating whether Simvastatin lowers the tissue factor level and interleukins in the blood of people who have heart failure and if genes for tissue factor affect simvastatin therapy in reducing the amount of tissue factor in the bloodstream. A total of 40 subjects (20 active treatment and 20 placebo), meeting the exclusion and inclusion criteria, will be enrolled into this two-year, randomized, placebo-controlled study. By conducting this study, the role of simvastatin on tissue factor expression and activity could be determined and better understood to help treatment of future heart failure patients. Clarification and improvements could also be used towards helping prescribe simvastatin to the right type of patients, whether they are heart failure patients or not.