Identification of Escapee Genes in the Development of Stress-induced Cardiomyopathy

Rochelle Nelson
Biological Sciences & Geology
QCC

Abstract
Gender disparity in the role of stress-induced cardiomyopathy (also referred to as Takotsubo syndrome or broken heart syndrome) progression is receiving considerable attention from the scientific community. This is in part due to the observation that women are suffering from this condition disproportionately higher than men. Within the female population, stress-induced cardiomyopathy affects women >55 years old at a higher frequency than younger women. The exact causes of stress-induced cardiomyopathy are still unknown; however, research has shown that stress hormone surge and coronary artery spasms may potentially be the leading causes of this condition. To date, the majority of research dedicated to understanding the gender disparity in this condition has focused on the role of sex hormones. However, these studies have overlooked another main cause of differences between men and women – their sex chromosomes. This study aims to identify potential genetic factors which lead to the occurrence of stress-induced cardiomyopathy. The expression levels of several X chromosome escapee genes will be measured following acute and chronic, stress hormone exposure.