INTRODUCTION

The mechanism underlying the interaction between cardiovascular and brain health has gained traction over the last several decades, with studies directed at determining how neurobiological phenomenon translate into future cardiovascular health and events.1-3 Depression and anxiety not only have an increased incidence for heart disease but also independently increase cardiovascular mortality.4-6 Similarly post-traumatic stress disorder (PTSD) has an association with incident coronary artery disease (CAD).7-9 The effects may be mediated through autonomic and inflammatory pathways, but may also be explained by co-occurring physical and psychiatric conditions.10

This review will highlight the current neurobiological and population-based evidence, including sex-differences, genetic, and epigenetic contributors for poor cardiovascular health outcomes in PTSD and related co-morbidities, such as depression. We will highlight the role of immunological network activation, inflammation, and autonomic dysfunction. Finally, preventative and treatment considerations will be discussed, including areas of future research that range from pharmacological and behavioral modifications that directly affect relevant neurobiology.

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