A3.0: Biobehavioral Markers of Stress Related Alterations in Health

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Abstract:
Overview: This symposium will examine stress and its effects in relationship to biological, psychological and environmental influences on health outcomes. For the purposes of the symposium, we define stress as when demands exceed the adaptive capacity of an individual, resulting in psychological and biological changes that may place the person at risk for disease. Psychoneuroimmunology (PNI) is the guiding framework for this symposium as we examine the stress response, predominantly the bi-directional communication between the hypothalamic-pituitary-adrenal axis (HPAA), the sympathetic nervous system, and the immune system as key pathways to regulate health and disease. Although the factors initiating physical and psychological stress are fundamentally different, the ways they impact the neuroendocrine and immune systems have many similarities. The hypothalamus integrates information from physical and psychological stimuli in response to stress. The hypothalamus releases corticotropin-releasing hormone (CRH). CRH acts upon the pituitary gland to induce release of adrenocorticotropic hormone (ACTH), this stimulates the adrenal gland to produce glucocorticoids (cortisol). A primary effect of cortisol is stimulation of gluconeogenesis. The adrenal gland is also regulated by the sympathetic nervous system, secreting catecholamines, epinephrine and norepinephrine. We will use a developmental approach to examine this framework in multiple populations throughout the life span. First, we examine the effect of stress in the Hispanic childbearing population predicting preterm birth. Second, we examine the effect of stress in Hispanic adult migrant farm workers. Third, we will examine menopausal women in relationship to glucose regulation and stress. In the last presentation, we will examine older adults with chronic heart failure and their response to the stress of the illness.

Abstract History:

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No Answer

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