

Stress Management Summit

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Biomarkers in PTSD

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A biomarker that objectively confirms PTSD diagnosis should be applicable in clinical, forensic, and disability/compensation contexts. Disturbances in the hypothalamic–pituitary–adrenal (HPA) axis, sympathetic adreno medullary system, and alterations in brain structure and function have been associated with risk for development of PTSD. The different types of susceptibility biomarkers that may benefit in the management are psychological, neuroendocrine, molecular, imaging, genetic, epigenetic, neurophysiological and neuroanatomical markers. Other than trauma, pre-existing vulnerable factors like stress, psychiatric disorders and genetic predisposition can cause epigenetic modifications, aberrant methylation of immune and endocrine genes through DNA methyltransferase activity. This leads to reduced activity of endocrine genes and increased activity of inflammatory genes inducing perturbations in protein and hormone concentrations which in turn lead to the manifestation of PTSD. New studies that incorporate biomarkers may generate predictors in each aspect of PTSD like:

- 1) Pre & post-traumatic risk factors
- 2) Diagnosis
- 3) Treatment matching
- 4) Treatment response,
- 4) Verification of recovery/remission
- 6) Subtyping PTSD

We are representing this poster to review the literature pertinent to the role of biomarkers in PTSD. The systemic review of literature within the poster is not limited only to diagnostic aspects but also includes treatment, legal and ethical issues of PTSD. This will be a great addition to current literature and certainly help researchers and clinicians with broader aspects and dynamics of biomarkers related to PTSD.

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