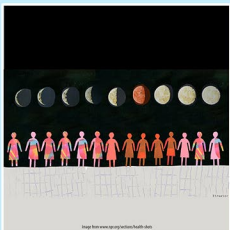




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For women with MRMD/PMDD, menstrual hormonal changes result in mood disorder.

Degree of symptom cyclicality predicts elevated Interleukin-6 in women with menstrually-related mood disorder

MRMD (Menstrually-Related Mood Disorder) is defined as acute premenstrual onset of intense anxiety and/or depression in combination with other psychological and physical symptoms. Despite the symptomatic similarities with constitutive anxiety and depression, the cyclicality of symptoms in MRMD presents a unique challenge for treatment. More information about the pathophysiology of PMDD/MRMD could help improve treatment options. Low-grade inflammation is implicated in the pathophysiology of some psychiatric disorders similar to MRMD. While inflammatory markers fluctuate across the menstrual cycle, little is known about how such fluctuations impact psychological and physical symptoms. We hypothesize that women with both (1) greater peripheral inflammation at baseline (tonic inflammation), and (2) greater changes in inflammation in response to acute stress, report a higher degree of premenstrual increase in symptoms. Each participant's response to stress was measured via a Trier social stress test during the luteal phase of the menstrual cycle. High-sensitivity ELISA kits were used to measure interleukin 6 (IL-6) levels as a marker of inflammation. Multilevel models in SAS PROC MIXED (with time points nested within women) predicted IL-6 at each time point from (1) time, (2) degree of cyclicality in each symptom, and (3) the interaction of cyclicality and time. In a sample of 51 women with prospectively-confirmed MRMD, the degree of symptom cyclicality across several domains was positively correlated with elevated baseline levels of inflammation (IL-6). However, degree of symptom cyclicality was not associated with stress-reactivity of inflammation induced by a standardized psychosocial stressor. This work provides the first evidence that premenstrual symptom severity is associated with elevated inflammation; this similarity to major depressive disorders may provide insights into prevention and treatment.