



High levels of OEA and PEA indicate systemic inflammation in Chronic widespread pain

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Scientists reported higher levels of OEA (oleoylethanolamide) and PEA (palmitoylethanolamide) in plasma of patients with chronic widespread pain (CWP). CWP is one of the most common pain with musculoskeletal problems such as fibromyalgia syndrome (FMS). These CWP and FMS chronic pain can alter both peripheral and central pain mechanisms. However, no supporting evidence for such alterations was present. Although, some components of the immune system such as pro- and anti-inflammatory components (cytokines and endogenous lipid mediators), may serve as systemic markers of chronic pain alterations. The lipid mediators such as palmitoylethanolamide (PEA), tearoylethanolamide (SEA) - belong to N-acylethanolamines (NAEs), and oleoylethanolamide (OEA) are known to associated with anti-inflammatory properties. Some previous studies enlightened the lipid mediators role in pain and inflammation modulation via peroxisome proliferator activating receptors (PPARs) activation. The activation of PPARs regulates the transcriptional gene factors which are responsible for chronic pain.

Scientists conducted a study to evaluate pro- and anti-inflammatory components efficacy among 17 women with CWP. During the investigation, the immune system components effects were also evaluated among 21 healthy controls. The components were taken for evaluation were anti-inflammatory lipids OEA, PEA, and SEA, anti-inflammatory cytokine IL-10, and pro-inflammatory cytokines TNF- α , IL-1 β , IL-6, and IL-8. During the assessment, the T-test of independent samples was used to evaluate comparisons among groups. Further the association between lipids, cytokines, and pain intensity evaluated by bivariate correlation analyses, and multivariate regression analysis.

The CWP patients were found with higher levels of OEA and PEA in plasma. No alterations were seen in cytokines levels. Also, no association was seen between lipid levels and cytokines.

Therefore, it is evaluated from studies that only OEA and PEA altered levels indicate the existence of systemic inflammation in CWP. These studies also help to explain the biochemical mechanisms involved in chronic musculoskeletal pain.

Source: Lipids Health Dis. 2017 Jun 12;16(1):112

Link to the source: <https://www.ncbi.nlm.nih.gov/pubmed/28606089>

Original title of article: Alterations of anti-inflammatory lipids in plasma from women with chronic widespread pain - a case control study

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