Chronic low back pain (CLBP) is usually quantified using the visual analog scale (VAS). However, the VAS is a subjective measure and prone to reporting bias, therefore making it difficult to differentiate patients with true pain from those seeking to obtain secondary gain. This study aimed to evaluate the feasibility of using plasma beta endorphin as an objective biomarker for CLBP.

Choi et al. searched PubMed, Embase, and the Cochrane Library for randomized trials that compared treatment vs sham procedures for patients with CLBP. Changes in VAS and β-endorphin levels between baseline and final evaluations were assessed for the treatment and control groups. A meta-regression model was developed to evaluate the association between the β-endorphin level and VAS.

They included data from seven trials involving 375 patients. There was no significant difference in VAS scores and β-endorphin levels between both groups at baseline. At final evaluation, the treatment group demonstrated significantly greater improvements in VAS scores and an increased β-endorphin level compared with the control group. The change in the plasma β-endorphin level may be a surrogate marker of treatment response for patients with CLBP (explanatory power: 80%). The plasma β-endorphin level might be rarely affected by sham procedures. For patients with CLBP, the baseline β-endorphin level may reflect the intensity of CLBP (explanatory power: 66%).

A change in plasma β-endorphin level may be a surrogate marker of the treatment response for patients with CLBP. Advancements in β-endorphin measurements may help us better quantify pain intensity [1].

1)
Choi HY, Lee CH. Can Beta-Endorphin Be Used as a Biomarker for Chronic Low Back Pain? A Meta-analysis of Randomized Controlled Trials. Pain Med. 2018 Sep 25. doi: 10.1093/pm/pny186. [Epub ahead of print] PubMed PMID: 30256990.