

ABSTRACT**CORRELATION BETWEEN INTERLEUKIN-6 SERUM LEVELS AND PAIN INTENSITY AFTER GIVING COMBINATION OF PARACETAMOL-AMITRIPTYLINE ON PATIENTS WITH CHRONIC LOW BACK PAIN**

Background - Chronic low back pain is defined as pain and discomfort located below and above the inferior gluteal fold, with or without pain in the sciatica that lasts for 12 weeks or more. The pathophysiology of low back pain is complex, giving therapy can be a challenge for doctors, because the etiology is very diverse and not specific, causing therapy to be inconsistent. Research is needed to find an effective therapeutic strategy of paracetamol-amitriptyline through an objective approach that is IL-6 levels which are the main marker of chronic inflammation in humans.

Objective - The aim of this study was to analyze the correlation between IL-6 levels and pain intensity after giving combination of paracetamol-amitriptyline on patients with chronic low back pain.

Method - Blood samples were obtained from patients who visit Neurology Outpatient Unit Dr Soetomo Teaching Hospital from July to November 2019 and IL-6 levels were assessed by using ELISA. VAS and PRI data filling is performed before and 2 weeks after paracetamol-amitriptyline were given.

Result - There were positive weak correlation ($r=0.167$) between level of IL-6 and VAS before paracetamol-amitriptyline was given, negative weak correlation ($r=-0.108$) between level of IL-6 and VAS after paracetamol-amitriptyline was given, no correlation ($r=0.085$) between change level of IL-6 and change of VAS before and after paracetamol-amitriptyline were given. There were negative weak correlation ($r=-0.200$) between level of IL-6 and PRI before paracetamol-amitriptyline was given, positive weak correlation ($r=0.112$) between level of IL-6 and PRI after paracetamol-amitriptyline was given, positive weak correlation ($r=0.277$) between change level of IL-6 and change of PRI before and after paracetamol-amitriptyline were given. There were significant effect of paracetamol-amitriptyline use on decrease of pain intensity using VAS ($p=0.004$) and PRI ($p=0.012$).

Conclusion - There was weak correlation between IL-6 serum levels with pain intensity. The use of paracetamol-amitriptyline as therapy is effective to reduce the pain intensity based on VAS and PRI.

Keywords: *chronic low back pain, paracetamol, amitriptyline, interleukin-6, visual analog scale, pain rating index*