

Investigation of Biomarkers Associated With Intestinal Barrier Permeability in Migraine Patients

Oğuz Alp Kucur¹, Aslı Yaman Kula², Şahabettin Selek³, Metin Demirel³, Fatmanur Göktaşoğlu³

¹Bezmialem Vakıf University, Faculty of Medicine, Istanbul, Türkiye

²Bezmialem Vakıf University, Faculty of Medicine, Department of Neurology, Istanbul, Türkiye

³Bezmialem Vakıf University, Faculty of Medicine, Department of Biochemistry, Istanbul, Türkiye

Introduction: Migraine is a common neurological disorder with no exact pathophysiology found. In the recent years, studies from the perspective of “Gut-Brain Axis” hypothesis, shows a strong connection between how Gut and the Brain effects each other in different type of mechanisms such as but not limited to: Hormones, Metabolites and Neuroendocrine factors. From that perspective there are no studies regarding examining migraine’s connection to Gut permeability. To examine aforementioned permeability, 2 proteins (Lipopolysaccharide Binding Protein and Zonulin) were selected.

Methods: In this particular study, migraine patients (n=52) blood sample were collected at Neurology clinic at Bezmialem Vakıf University. Patient group was categorized according to their aura history, VAS (Visual Analogue Score) value, Migraine attack frequency per month, onset time, photophobia, sonophobia, pain duration per attack, nausea and vomiting symptoms respectively. Samples were studied with ELISA Kits at Biochemistry laboratory located in Bezmialem University. Their results were compared to healthy controls (n=30) later.

Results: There were no significant differences detected between migraine and healthy control groups in means of both serum Zonulin and LPBP levels ($p>0,05$). However, we found a moderately significant correlation between VAS values and pain frequency group for both our parameters ($p=0,03$ for Zonulin and $p=0,02$ for LPBP).

Conclusion: Our group couldn’t show a significant connection between migraine and gut permeability directly however as our results suggest a moderate significance between pain intensity and Zonulin and LPBP levels further studies are needed to elaborate the subject.

Keywords: Migraine, Gut Permeability, Zonulin, LPBP