

PROBABLE CORRELATION BETWEEN SERUM CALCITONIN GENE-RELATED PEPTIDE AND OBESITY IN MIGRAINOUS PATIENTS RECENTLY TRANSFORMING TO CHRONIC TYPE

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Introduction

The exact etiology of primary migraine remains unknown, although it is believed to implicate the trigeminovascular system, genetic factors, thalamic functions changes, brainstem dysfunction, and the production of neuropeptides such as CGRP (calcitonin gene-related peptide). However, in most cases of migraine, there are multiple factors that contribute to the onset of an attack of migraine. Genetics, environmental factors, and biochemical factors all contribute in altering the trigger threshold for an attack. The recognition of CGRP (calcitonin gene-related peptide) in the mid-1980s revealed its crucial involvement in the migraine pathophysiology. By inhibiting its activity, migraine attacks can be prevented or become less frequent. There are multiple ways in which migraine and obesity are linked, as both are prevalent and debilitating disorders that are affected by genetic and environmental influences. Obesity and MWA are considered threats for cardiovascular diseases, and studies proposed that obesity has a high chance for chronic migraines after adjusting for co-morbidities.

Results

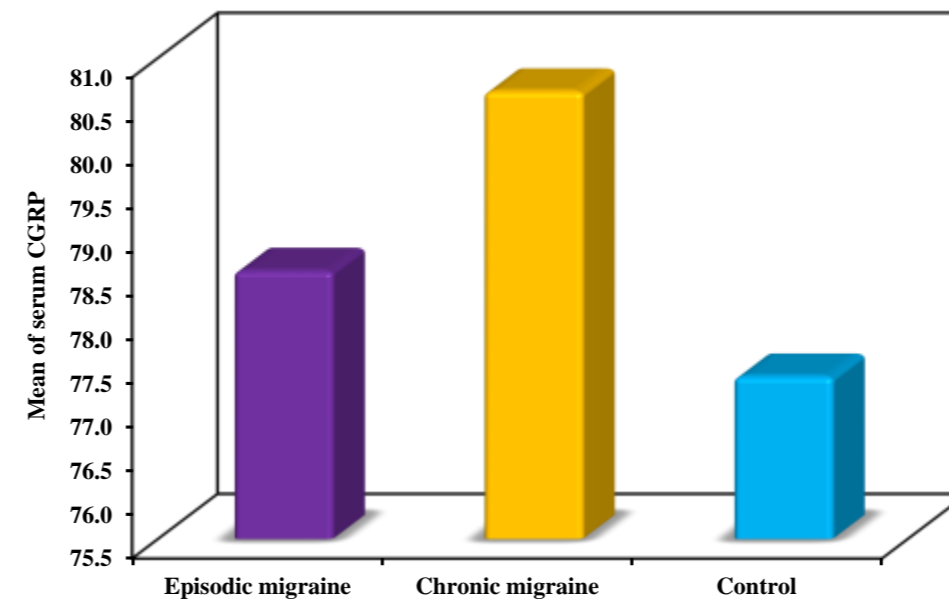


Figure 1: Comparison between the three studied groups according to CGRP

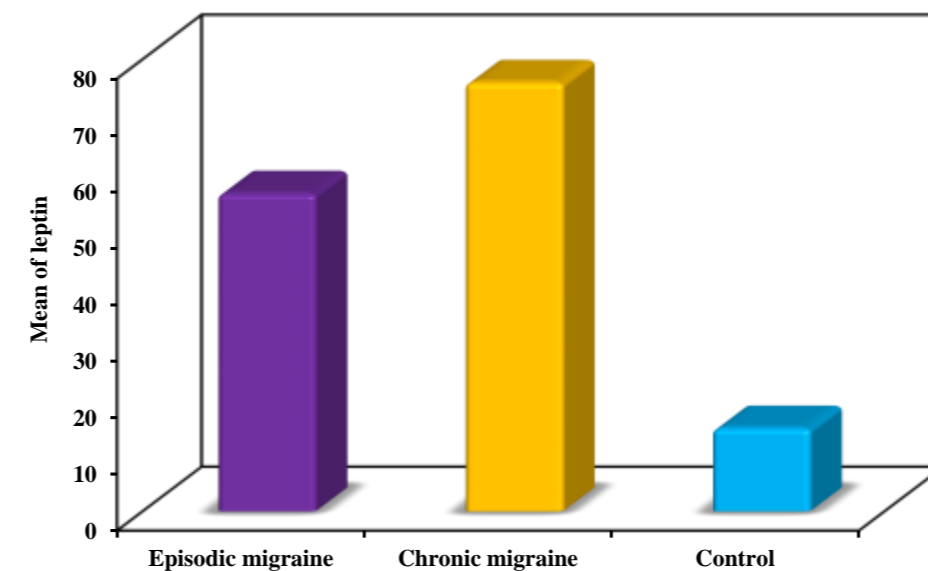


Figure 2: Comparison between the three studied groups according to leptin

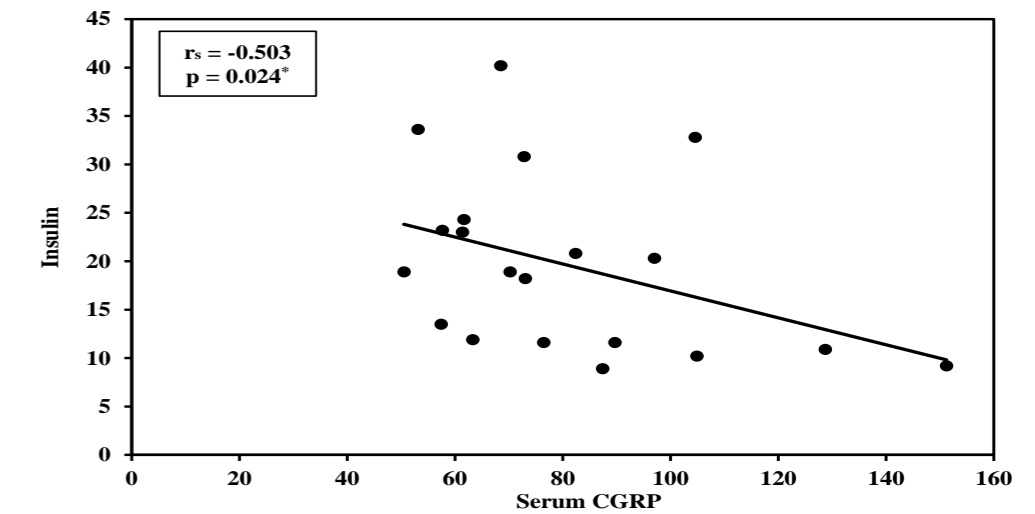


Figure 3: Correlation between Serum CGRP with insulin in chronic group

Conclusion

From this study we concluded that:

The use of biomarkers could potentially aid in diagnosing and selecting treatment options for different types of headaches and disease states. CGRP participates in the migraine pathophysiology and is regarded as a promising future indicator for migraine. Whether the CGRP level in blood is increased or unaltered in primary headache disorders is currently imprecise.

The hypothetical correlation between obesity and migraine has been related to neuroinflammation and increased pro-inflammatory indicators production that might be crucially involved in migraine pain process. Accordingly, if obesity does contribute to the intensity and severity of migraine, then weight loss could lead to symptoms' improvement. Regardless of intervention, weight loss has been shown to diminish the duration, severity, frequency, and disability related to migraine attacks.

Aim of the Work

The aim of this study was to correlate between serum CGRP level and obesity (BMI; waist circumference, serum leptin and insulin levels) in patients with recent transformation from episodic to chronic migraine.

Subjects and Methods

SUBJECTS:

Twenty patients; with recent transformation within the last year from episodic to chronic migraine, and 40 controls (20 with episodic migraine, and 20 non-migraineurs) were included.

METHODS:

- History taking and assessment of high-risk factors.
- Headache history sheet.
- Basal metabolic index (BMI).
- DASS-21.
- Laboratory investigations.
- Clinical neurological examination.
- Waist circumference measurement.
- CT or MRI if required.