

Changes of inflammatory profile after anti-CGRP antibody treatment in migraine patients.

Cambise C.1,2 , Gaito R. ², Marasca M.², Grossi L. ³, Bonanni L. ³, Di Fabio L. ³, Matera C. ³, Travaglini D. ³, Peverini M ², Caprodossi A. ².
Azienda Ospedaliera Perugia. ¹
USL Umbria1. ²
ASL Lanciano-Vasto-Chieti. ³

5PSQ-009, DR CAMBISE CESIDIO

Background and objectives

In late 2001 WHO listed migraine among the top 20 most disabling disorders in the world. In “the world health report” it is explained how, this condition limits a person's ability to perform important activities and affects work performance, study and normal social life. The objectives of the study were: the change in MIDAS score among 18 migraine patients before and after treatment with a specific monoclonal antibody; to estimate the concentration of pro-inflammatory cytokines before (time T0) and after the start of therapy (time T1).

Materials and methods

The materials and methods used in the study were: MIDAS questionnaire, ELISA technique for detecting cytokines

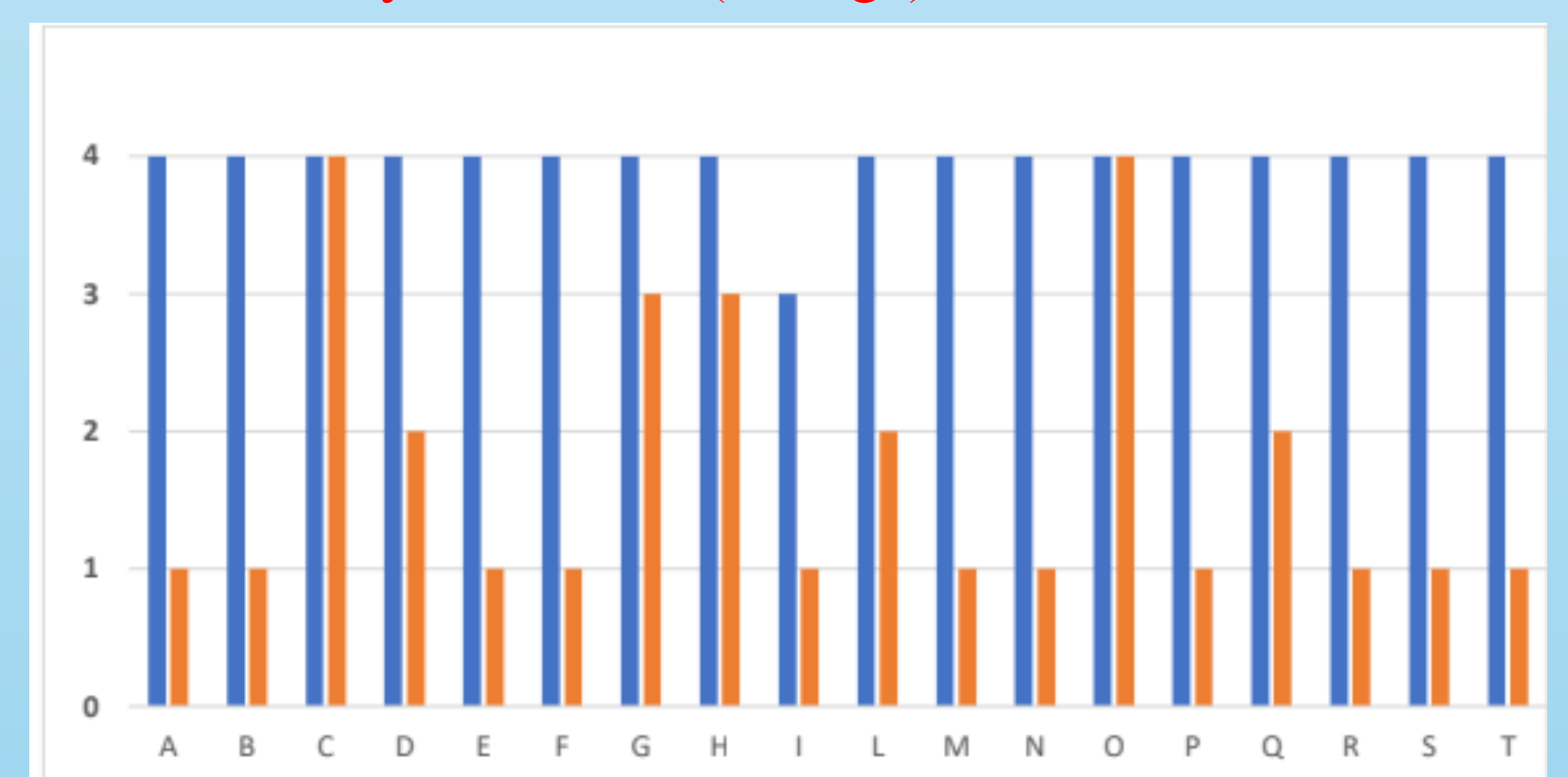
Results

Inflammation plays a key role in the pathogenesis of migraine as evidenced by analysis of the concentrations (pg/ml) of some specific cytokines (IL-1B, IL-6, IL-8, IL17a, IFN-g, IL-10, TNF-a, MIP-1a and Adiponectin) on blood samples taken in 13 selected patients treated with the monoclonal antibodies (Erenumab, Galcanezumab and Fremanezumab), before and after the first administration, showed that in all patients there is a reduction in IL1-B, IL-10, TNFa, IL-18 and IFNg. For IL-6, IL-8 and MIP1a, the values remain stable both before and after administration of the monoclonal antibody.

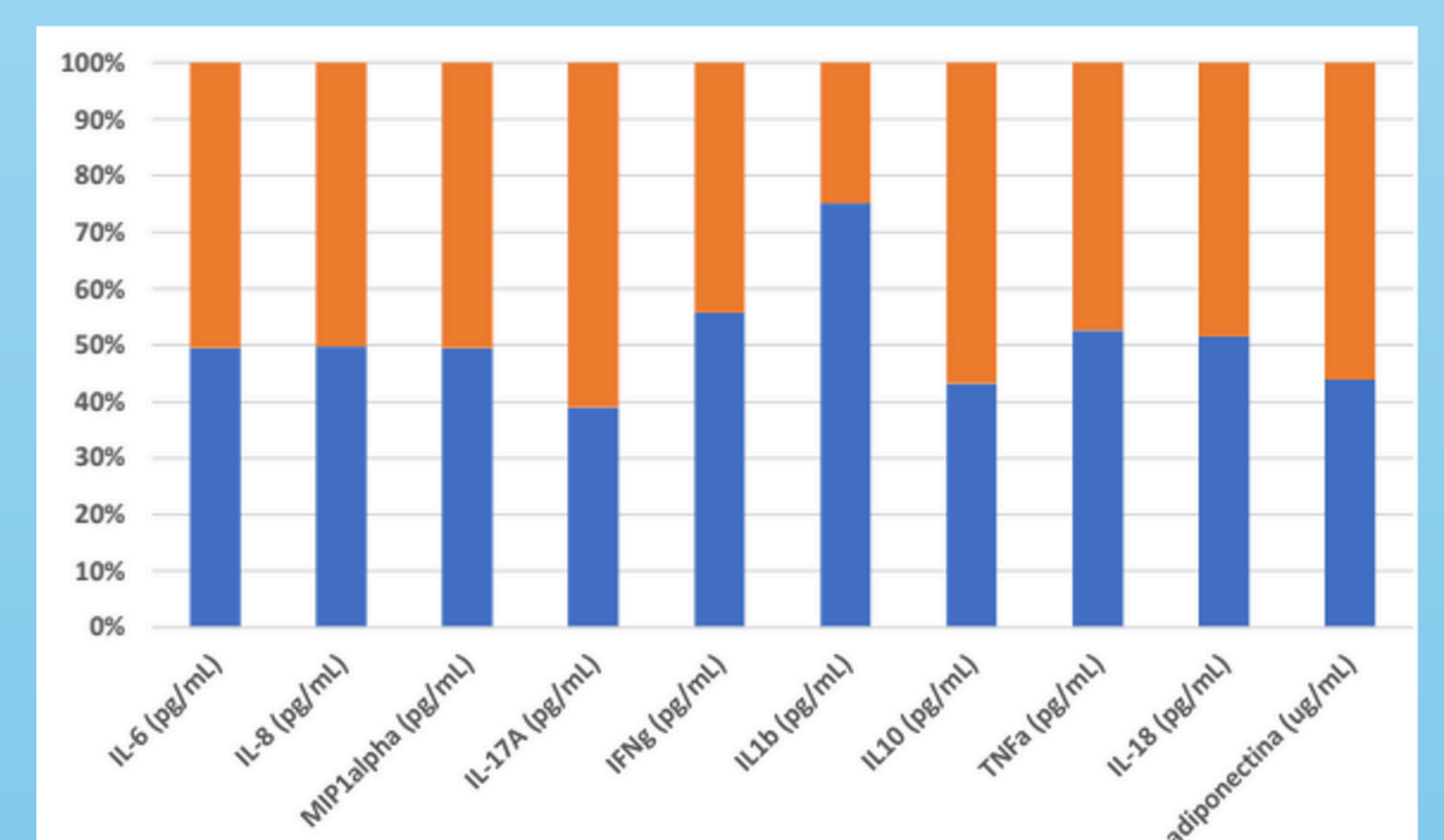
Conclusion

Analysis of the MIDAS questionnaire showed that there is a marked improvement in the quality of life of migraine patients after treatment with the monoclonal antibody, with a marked reduction in the incidence of episodes after three months of treatment. Through cytokine analysis, there is a marked reduction in the inflammatory component that plays a key role in the pathogenesis of migraine.

MIDAS score before antibody treatment (blue) and after antibody treatment (orange).



Pro- and anti-inflammatory cytokine concentrations before (blue) and after antibody treatment (orange).



References

- (1) Gaku Y. et al. Experimental and Clinical Investigation of Cytokines in Migraine: A Narrative Review. Int J Mol Sci.2023;
- (2) Stewart WF et al. Development and testing of the Migraine Disability Assessment (MIDAS) Questionnaire to assess headache-related disability. Neurology.2001.