Palmitoylethanolamide (PEA) is an endogenous agent in the family of fatty acid amides and chemically known as N-(2-idrossietil)esadecanamide (fig. 1).

Intra-articular chronic inflammatory or degenerative conditions, and above all arthritis (fig.3), synovitis and capsulitis are the most frequently observed pathologies in the field of the temporomandibular joint disorders (TMJD). Such conditions result in painful symptoms, TMJ functional limitations, jaw locking and tenderness/pain of the muscular tissues, especially in the acute stages of the disease. The treatment management of this group of disorders still represent a true challenge for clinicians.

The aim was to compare the efficacy of PEA and non-steroidal anti-inflammatory drugs (NSAID) in the treatment of pain caused by temporomandibular joint disorders (TMJD).

The sample was recruited among a group of 120 patients referred to Dental Department of the University of Bologna. In this group were selected 25 patients (17 female and 8 male) aged 24-54, affected by osteoarthritis and synovitis (fig. 5-6), who had been classified in Axis I, group III of the Research Diagnostic Criteria for TMJD (ROC/TMD). A blinded randomized clinical trial was conducted dividing these patients in two groups giving both a 14 days pharmacological therapy. Group A (13 subjects) received PEA (Normast, Epitech Group, Padova, IT) 300 mg in the morning and 600 mg in the evening the first week and then 300 mg twice a day for another week. Group B (12 subject) took a NSAID (ibuprofen 600 mg) 3 times a day for 2 weeks.

Every patient registered the intensity of their spontaneous pain using Visual Analogue Scale (VAS) twice a day (in the morning and evening) noting data in a diary. Maximum mouth opening was registered by a blind operator at the beginning and at the end of the treatment.

Mann-Whitney test was used to compare the course of pain during treatment. Pain decrease after two weeks of treatment was significantly higher in group A (PEA) than in group B (NSAID) (p=0.0001); masticatory function improves more in group A than in group B (p=0.0001).

Mast cells are a normal constituent of the synovium and expand strikingly in a range of joint diseases. Because currently available anti-rheumatic therapies remain inadequate to guarantee patients with inflammatory arthritis control of disease free of unacceptable toxicity, the mast cell may represent an interesting target for future drug development5. The endogenous nature of PEA prevents the side effects that other drugs bring about.

Our preliminary data suggest that PEA is a non-gastrolesive effective analgesic with a longer half-life than NSAID (12 versus 4 hours) so it is an eligible alternative tool to treat TMJ’s pain. Confirmatory studies with a larger sample size are necessary.

Bibliography