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## Botox injected in head 'trigger point' is proven to reduce migraine crises

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Scientists at the University of Granada have identified the location of the so-called trigger points that, when activated, cause migraine crises. The common location of these points are the anterior temporal and the suboccipital regions of the head –both at bilateral level

Scientists at the University of Granada have confirmed that injecting a local anesthetic or botulinum toxin (botox) into certain points named "trigger points" of the pericranial and neck muscles reduce migraine frequency among migraine sufferers. University of Granada researchers have identified the location of these trigger points –which activation results in migraine– and their relationship with the duration and severity of this condition.

Headache is a universal experience. At present, there are more than 100 different types of headache and one of the most recurring ones is migraine, which affects approximately 10-12% of the population, being three times more common in women than in men. When migraine becomes chronic –occurring more than 15 days a month–, it can disrupt patients' daily life in a great degree.

This research study is one of the three studies that have been conducted by Juan Miguel García Leiva –a researcher at the University of Granada Institute for Neuroscience "Federico Oloriz" – and coordinated by professor Elena Pita Calandre.

### Trigger Points in Migraine Sufferers

In the first study, researchers examined a sample of healthy subjects and patients with a diagnosis of migraine –any frequency–, and analysed the presence of trigger points and their location, many of the explorations resulting in a migraine crisis. The most interesting findings of this study were: 95% of migraine sufferers have trigger points, while only 25% of healthy subjects have them. The most common locations of trigger points are the anterior temporal and the suboccipital region, both bilateral, of the head. Furthermore, researchers found a positive correlation among the number of trigger points in a patient, the number of monthly crises and the duration in years of the condition.

Subsequently, researchers conducted another study with 52 migraine sufferers (with migraine refractory to common pharmacological treatments). During three months, patients received a weekly subcutaneous injection of 1mL of a local anesthetic into their trigger points.

After the injection of the anesthetic, 18% of patients experienced a 50% or higher reduction in the frequency of migraine crises, as compared with the basal period. Additionally, an 11-49% reduction of frequency was observed in 38% of patients. Two thirds of the patients treated reported to feel "better or much better".

### Few Side Effects

In the third study, 25 patients with chronic migraine were injected with 12.5 doses of botox into each trigger point twice, during a period of 3 months. Frequency (main variable), intensity and scales of migraine crises were recorded one month before and one month after the treatment to compare the changes experienced. In addition, side effects were also recorded during the experiment, and they were found to be mild and temporary.

After the injections, the most significant decrease in crisis frequency was observed at week 20. Similar results were obtained in those crises labelled as "moderate" and in the frequency of analgesic use by patients.

García Leiva specified that this treatment "is not a first-choice treatment for migraine sufferers, but it can only be applied in patients with chronic migraine who have tried several treatments with poor results, and who show peripheral sensitization of muscles. Recently, the Food and Drug Administration (USA) has approved botulinum toxin as a therapeutic drug for the treatment of chronic migraine.

### References:

1. Trigger point evaluation in migraine patients: an indication of peripheral sensitization linked to migraine predisposition? Calandre EP, Hidalgo J, García-Leiva JM, Rico-Villademoros F. *European Journal of Neurology* 2006, 13: 244-249
2. Effectiveness of Ropivacaine Trigger Points Inactivation in the Prophylactic Management of Patients with Severe Migraine. García-Leiva JM, Hidalgo J, Rico-Villademoros F, Moreno V. *Pain Medicine* 2007, 8 (1): 244-249
- 3.- Hidalgo J, Rodríguez-López CM, García-Leiva JM, Rico-Villademoros F, Calandre EP. Effectiveness botulinum toxin type A in the prophylaxis of severe and treatment-refractory migraine. *J Headache Pain*, 2006; 7(S-1): p. S-18.

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